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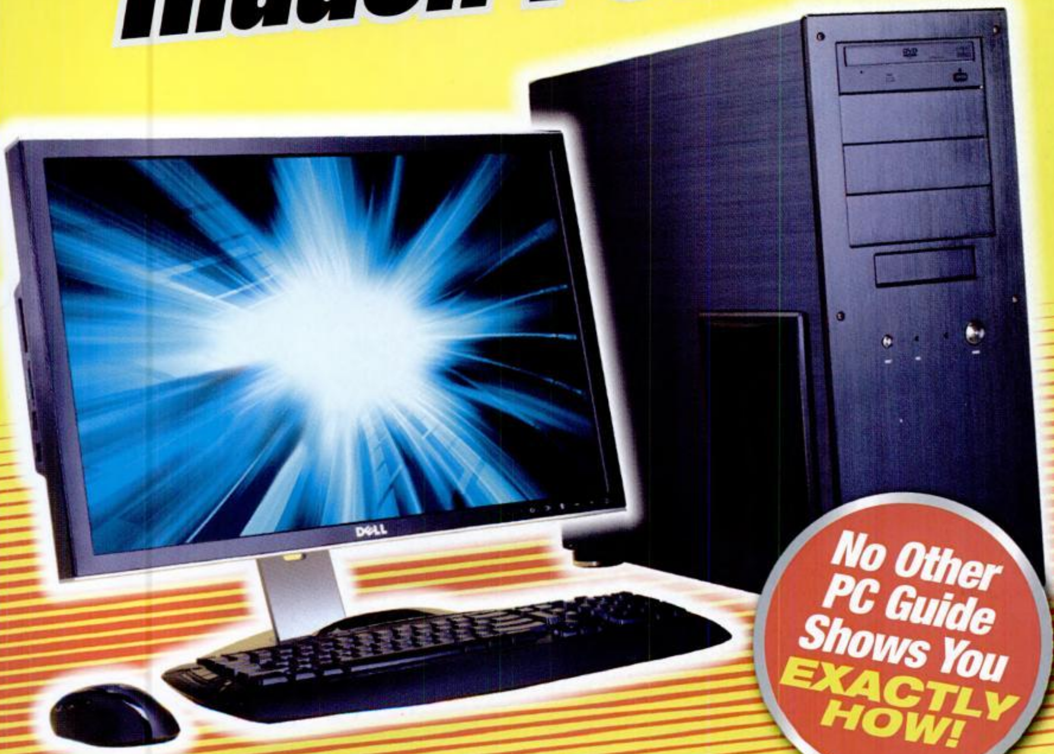

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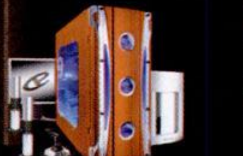

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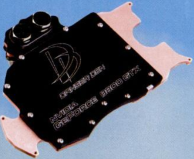

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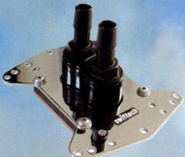

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Poor ol' Joe's innards became clogged with dust and furballs, and his keyboard and mouse caked with grime. But Joe didn't really mind: he'd grown tired of doing the same-ol'-same-ol' for too long. Joe's owner never pushed the limits of Joe's potential, and thus he was eventually recycled and replaced with a new machine, doomed to share the same fate.

If you're using your PC just as it came (standard from the factory), there's a good chance you're missing out on much of its potential. And this means you're not getting the value you could be from your investment. We want to help you maximize that return, and save your PC from sharing Joe's sad fate!

Your machine and many software tools you use on a daily basis have a great deal of internal, often hidden, potential that you can unlock with just a few drops of sweat—and the desire to squeeze every last ounce of horsepower that you can from your rig.

We've assembled a bevy of how-to articles that will help you master three critical aspects of your PC: hardware, OS, and internet. We offer simple PC projects that range from cleaning your machine to organizing your MP3 collection. Then we roll up our sleeves, break out the dremel, and show you how to add a very handy drawer to your PC's case.

Think you're a web-surfing pro? Bask in our tips and tweaks for *Google* and *Gmail*, post some video on *YouTube* or stream a webcam on the Net, and ditch *Internet Explorer* for *Firefox*. (You'll thank us!)

If you've been eyeing an upgrade to Windows Vista, we still say it's best to wait for a more compelling reason to make the (costly) jump. In the meantime, you can amuse yourself by giving your XP installation a Vista makeover. You can import much of Vista's functionality into XP via a range of free and low-cost utilities. Find out all about them in our "Vista for Free!" story on page 52.

If you're determined to make the move now, we've got you covered, too. Our install guide will get you off and running with Microsoft's new Windows as quickly and cleanly as possible.

So, roll up those sleeves, unlock your inner PC handyman, and get the most out of your PC's potential. In the process, you'll be saving your rig from Joe's very unfortnate fate.

— Steve Klett
steve@maximumpc.com

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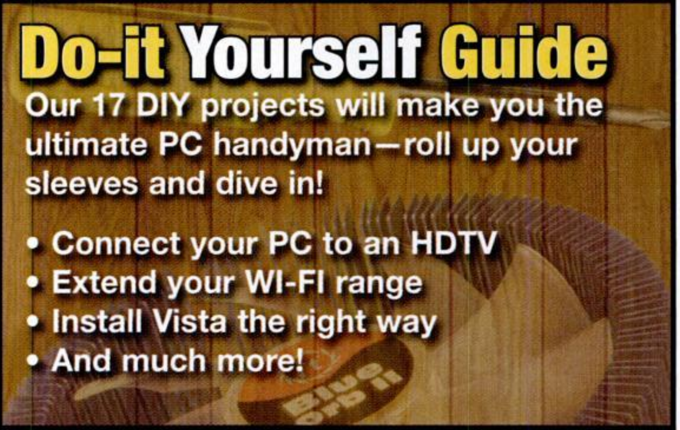


12 **Do-it Yourself Guide**
Our 17 DIY projects will make you the ultimate PC handyman—roll up your sleeves and dive in!

- Connect your PC to an HDTV
- Extend your Wi-Fi range
- Install Vista the right way
- And much more!

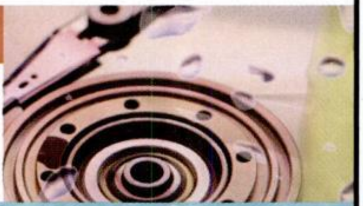
29 **ADD A CUSTOM DRAWER TO YOUR PC**
A very practical mod that will benefit any machine!

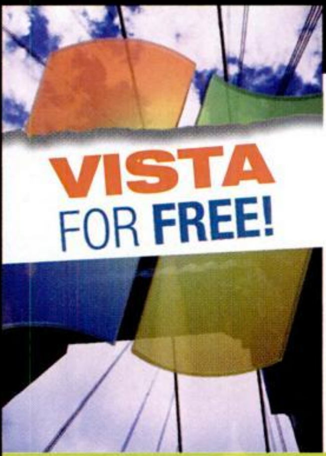
34 **CLEAN YOUR PC—THE RIGHT WAY!**
"Yes, Mom..."

38 **WATERCOOL YOUR PC!**
Everything you need to know to keep your PC chillin' during the heat of summer

44 **GET VIRTUAL!**
Use virtual machines to run ANY OS on your rig

52 **VISTA FOR FREE!**
You can get much of Vista's next-gen functionality in XP for little or no money—we show you how!





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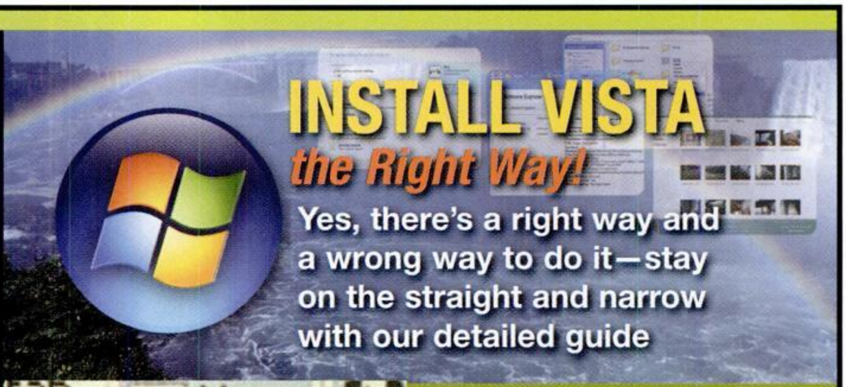

66 INSTALL VISTA *the Right Way!*
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ONLINE MUSIC STORES

iTunes Store **vs.** Zune Marketplace

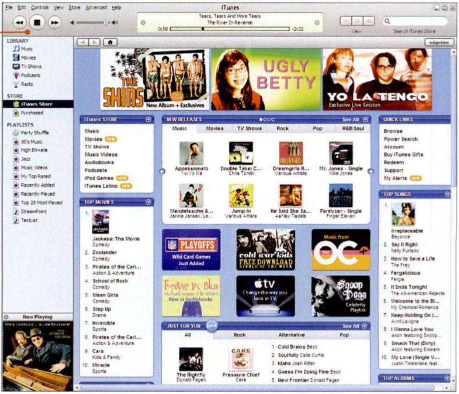
When it comes to online music sales, Apple leads the field with the iPod and the iTunes software and music store—no one else even comes close. But when you consider that downloads are expected to account for one-third of all music sales by 2011, it should come as no surprise that Microsoft created the Zune and Zune Marketplace to grab a piece of the action.

Apple has been in this market for several years, so it benefits from long-established relationships with the major record labels and is the far more experienced player. Microsoft, on the other hand, has undoubtedly studied Apple's moves and should have learned from whatever mistakes its competitor has made.

The software and online-purchasing experience that go hand-in-hand with digital music players often get short shrift in reviews, but it's a critical consideration for consumers. This is particularly true for anyone who might purchase an iPod or Zune because they both lock you into purchasing tracks from a single source. In the event you prefer to rip your own music, however, we'll also examine the process for importing music from your own CDs.

BY MICHAEL **BROWN**

APPLE ITUNES
www.itunes.com


File Edit Controls View Store Advanced Help
iTunes
Tears, Tears And More Tears
The River In Reverse
0:58
-2:32
View
Search iTunes Store
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LIBRARY
Music
Movies
TV Shows
Podcasts
Radio
STORE
iTunes Store
Purchased
PLAYLISTS
Party Shuffle
90's Music
High Bit-rate
Jazz
Music Videos
My Top Rated
Recently Added
Recently Played
Top 25 Most Played
StreamPoint
TestList
Now Playing
THE SHINS
New Album + Exclusives
UGLY BETTY
YO LA TENGO
Exclusive Live Session
iTunes STORE
Music
Movies NEW
TV Shows
Music Videos
Audiobooks
Podcasts
iPod Games NEW
iTunes Latino NEW
TOP MOVIES
1. Jackass: The Movie Comedy
2. Zoolander Comedy
3. Pirates of the Cari... Action & Adventure
4. School of Rock Comedy
5. Mean Girls Comedy
6. Step Up Drama
7. Invincible Sports
8. Pirates of the Cari... Action & Adventure
9. Cars Kids & Family
10. Miracle Sports
NEW RELEASES
See All
Music
Movies
TV Shows
Rock
Pop
R&B/Soul
Appassionato Yo-Yo Ma
Double Take: C... Chris Tomlin
Dreamgirls R... Various Artists
Mr. Jones - Single Mike Jones
Mendelssohn &... Janine Jansen, Le...
Jump In Various Artists
He Said She Sa... Ashley Tisdale
Paralyzer - Single Finger Eleven
PLAYOFFS
Wild Card Games Just Added
cold war kids FREE DOWNLOAD SINGLE OF THE WEEK
Music from THE OC
Forever In Blue
New in Audiobooks
tv
Change the way you look at TV.
Snoop Dogg Celebrity Playlist
JUST FOR YOU
See All
All
Rock
Alternative
Pop
The Nightfly Donald Fagen
Pressure Chief Cake
1. Cold Brains Beck
2. Soulfully Catie Curtis
3. Idaho Josh Ritter
4. Guess I'm Doing Fine Beck
5. New Frontier Donald Fagen
QUICK LINKS
Browse
Power Search
Account
Buy iTunes Gifts
Redeem
Support
My Alerts NEW
TOP SONGS
1. Irreplaceable Beyonce
2. Say It Right Nelly Furtado
3. How to Save a Life The Fray
4. Fergalicious Fergie
5. It Ends Tonight The All-American Rejects
6. Welcome to the Bl... My Chemical Romance
7. Keep Holding On (... Avril Lavigne
8. I Wanna Love You Akon featuring Snoop...
9. Smack That (Dirty) Akon featuring Eminem
10. My Love (Single V... Justin Timberlake feat...
TOP ALBUMS

round 1 THE TOTAL CATALOG

It's de rigueur for an online music service to boast "millions of songs" in its library, but it doesn't matter if there are *billions* of songs in there if you can't find the one you crave. ITunes has millions more songs than Zune Marketplace today, but that situation won't last. And when it comes to support for independent labels and artists, the Zune Marketplace is superior. We found numerous out-of-the-mainstream acts, including the alt-country act Trailer Park Rangers and the instrumental-pop group Blue Star on Zune Marketplace, but not on iTunes.

But iTunes also includes support for Internet radio, and Apple has expanded far beyond music to offer podcasts, Hollywood movies, and broadcast TV shows. If music is all you care about, you might disdain the MTVing of iTunes, but the service still deserves the nod in this category.

WINNER: ITUNES

round 2 AUDIO QUALITY OF PURCHASED TRACKS

Theoretically, the tracks sold on Zune Marketplace are superior because they're encoded at 192Kb/sec (WMA) versus iTunes' 128Kb/sec (AAC). If you can hear the difference between a WMA file and an AAC file encoded at the same bitrate, congratulations; most people won't be able to tell the difference between tracks encoded at 128Kb/sec from those encoded at 192Kb/sec. Compare a track recorded at 192Kb/sec to the same song recorded using just about any *lossless* codec, on the other hand, and we'd be shocked if you couldn't hear the difference.

Unfortunately, neither iTunes nor Zune Marketplace sells songs encoded with a lossless codec; in fact, the Zune won't even *play* songs encoded in Microsoft's own WMA Lossless codec.

WINNER: NEITHER

usic from
zune

round 3

THE PURCHASING EXPERIENCE

Leave it to Microsoft to decide that there's a better way to pay for merchandise than using dollars and cents. In order to buy music from Zune Marketplace, you must first buy Microsoft Points in $5 increments. You get 80 points on the dollar, but since most single tracks cost 79 points, you can never really spend all the points you buy. When you're buying a track for 79 points, it's easy to mentally convert that to $1.00, but how much money are you spending when you purchase an album for 720 points or a box set for 3,325 points?

You use real money when you purchase music on iTunes, and you can buy one or many tracks at a time—and that's the way it should be.

WINNER: ITUNES

round 4

IMPORTING YOUR OWN MUSIC

If you buy an iPod or a Zune, you might never purchase any tracks online but instead buy CDs, rip them to your PC, and then transfer them to your portable player. Given all the artificial restrictions the services' DRM schemes impose, this is the route we recommend.

iTunes and the Zune's software allow you to rip tracks using lossless codecs, Apple Lossless Encoder and WMA Lossless, respectively. Ripping tracks is pretty much a point-and-click affair with both programs, but we ran into problems with album art when we imported previously ripped tracks into the Zune software. Some art was missing and we couldn't import it from Microsoft's own database. Oddly enough, it was a snap to copy and paste images from other websites, but we had to take the time to hunt them down. We didn't have any such problem with iTunes.

WINNER: ITUNES

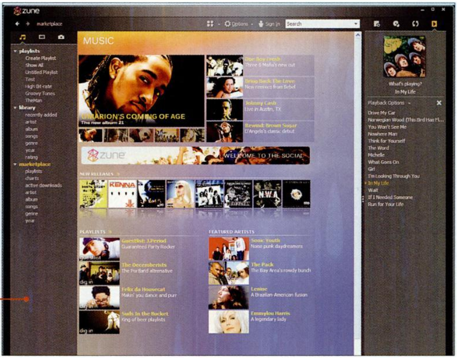
round 5

CREATING PLAYLISTS

Both iTunes and the Zune software make it easy to drag and drop songs to create playlists, and both offer tools to automate the process: ITunes describes these tools as Smart Playlists and Zune refers to them as Auto Playlists. We found playlists to be slightly easier to create in iTunes—simply because the selection criteria is listed from left to right, like a sentence, and the selection criteria is more precise. If you want to create a playlist consisting exclusively of tracks encoded at 320Kb/sec—a common choice—you can do that in iTunes. The Zune software limits your bitrate selection criteria to more specific values: at least, no more than, or no less than 300Kb/sec, for example. The Zune software, on the other hand, does provide more overall selection criteria than iTunes.

In both cases, syncing the playlist to the player—or burning the playlist to a CD—was a simple drag-and-drop operation.

WINNER: ITUNES


zune
marketplace
Options
Sign in
Search
MUSIC
playlists
Create Playlist
Show All
Untitled Playlist
Test
High Bit-rate
Groovy Tunes
TheMan
library
recently added
artist
album
songs
genre
year
rating
marketplace
playlists
charts
active downloads
artist
album
songs
genre
year
OMARION'S COMING OF AGE
The new album 21
Doe Boy Fresh
Three 6 Mafia's new cut
Bring Back The Love
New remixes from Bebel
Johnny Cash
Live in Austin, TX
Rewind: Brown Sugar
D'Angelo's classic debut
zune
WELCOME TO THE SOCIAL
NEW RELEASES
KENNA
N.W.A
PLAYLISTS
Guestlist: J.Period
Guaranteed Party Rocker
guestlist
The Decemberists
The Portland alternative
dig in
Felix da Housecat
Makin' you dance and purr
dig in
Suds In the Bucket
King of beer playlists
dig in
FEATURED ARTISTS
Sonic Youth
Noise punk daydreamers
The Pack
The Bay Area's rowdy bunch
Lenine
A Brazilian-American fusion
Emmylou Harris
A legendary lady
What's playing?
In My Life
Playback Options
Drive My Car
Norwegian Wood (This Bird Has Fl...
You Won't See Me
Nowhere Man
Think for Yourself
The Word
Michelle
What Goes On
Girl
I'm Looking Through You
In My Life
Wait
If I Needed Someone
Run for Your Life

ZUNE MARKETPLACE
www.zune.net

And the Winner Is...

Microsoft's Zune software and its Zune Marketplace didn't win a single category in this head-to-head comparison, so it's anticlimactic to anoint Apple's iTunes the winner. Apple's service and software benefits from being in the market longer, and that should have given Microsoft a solid jump-off point, but it doesn't seem as though Microsoft has learned much of anything from Apple.

The fact that the Zune software doesn't allow you to back up the songs you've purchased is one of its most egregious shortcomings. Microsoft says you can easily restore your "media usage rights" if you encounter an error message that says you don't have the right to play the music, but you're screwed if your hard drive crashes and you can't play the song at all. Apple at least allows you to back up your songs to CD or DVD.

But there is one feature of the Zune Marketplace that we'd like to see Apple copy: We dig the $15-per-month subscription model that allows you to rent music and play it on both your PC and your Zune. But is that feature worth buying a Zune for? No way. And despite the fact that we think iTunes is better than the Zune Marketplace, we can't recommend buying music from either service. Even if you can swallow their DRM restrictions as a necessary evil, both services sell music that is compromised by lossy codecs. MPC

MAXIMUM PC's Do-it-

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WD2000
HUSKY
NO 175274

-Yourself Guide

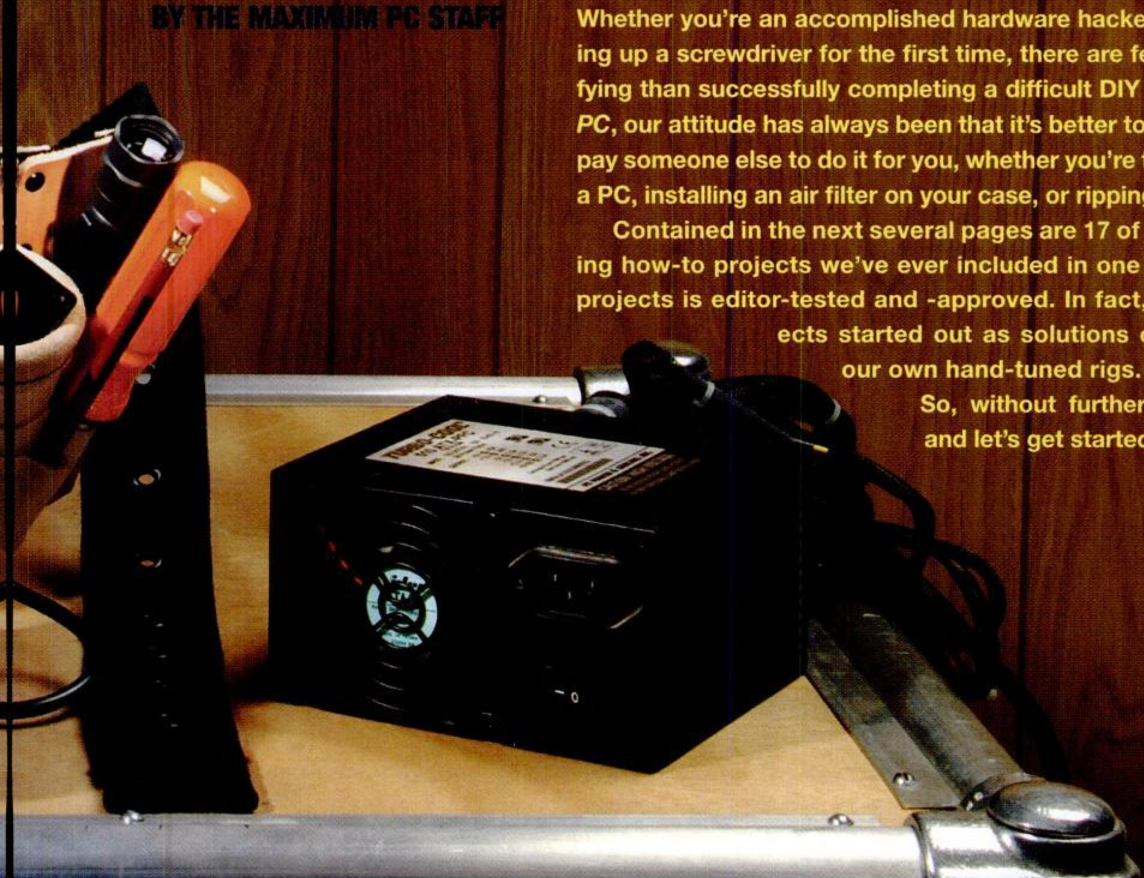
Grab your toolbox, get out your Dremel! The following pages contain 17 of the best, most high-impact DIY projects you've ever seen for your PC!

BY THE MAXIMUM PC STAFF

Whether you're an accomplished hardware hacker or a neophyte picking up a screwdriver for the first time, there are few things more satisfying than successfully completing a difficult DIY project. At *Maximum PC*, our attitude has always been that it's better to do it yourself than to pay someone else to do it for you, whether you're talking about building a PC, installing an air filter on your case, or ripping your CDs to MP3.

Contained in the next several pages are 17 of the best, most exciting how-to projects we've ever included in one story. Each of these projects is editor-tested and -approved. In fact, most of these projects started out as solutions or improvements for our own hand-tuned rigs.

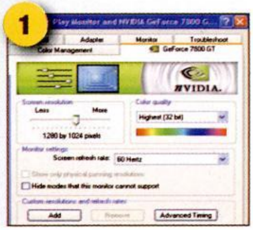
So, without further ado, turn the page and let's get started!



CONNECT YOUR PC TO YOUR HDTV

Connecting your computer to a high-def TV can be very tricky; here's a quick and easy guide to get your PC talking to any display.

1



Screen resolution: 1280 by 1024 pixels

Color quality: Highest (32 bit)

Screen refresh rate: 60 Hertz

☐ Hide modes that this monitor cannot support

Before connecting anything to your HDTV, set your videocard to a resolution the display supports. If it's a flat screen, set the card to the screen's native resolution. You might need to remove the checkmark next to "Hide modes this monitor does not support" in order to expose additional predefined settings; if you still don't find the resolution you need, use the videocard's driver to create a custom resolution.

2a

Late-model high-def TVs are outfitted with either DVI or HDMI connectors, the latter of which carries both digital video and multichannel digital audio on the same cable. A simple DVI cable will handle DVI connections, but because you won't find any videocards with HDMI outputs, you'll need to use either a DVI-to-HDMI adapter or a cable with a male DVI connector at one end and a male HDMI connector at the other.

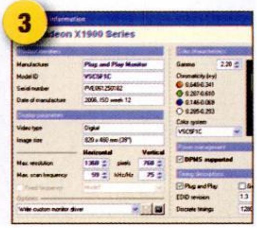
2b

Older high-def TVs rely on component analog-video connections. In this situation, you'll need to plug an adapter cable into your videocard that outputs its analog signal to three separate cables (Y, Pb, and Pr). This is a common feature on high-end ATI and nVidia cards. You should be able to purchase a cable that has a male VGA connector at one end and component analog-video connectors at the other.

CAUTION!

Setting incorrect scan and/or refresh rates can permanently damage your monitor. Don't tweak these settings without first consulting your monitor's user manual.

3



Manufacturer: Plug and Play Monitor

Model ID: VSC5F1C

Serial number: PVE061250182

Date of manufacture: 2006, ISO week 12

Video type: Digital

Image size: 820 x 460 mm (37")

Max. resolution: 1360 pixels 768

Max. scan frequency: 59 kHz/Hz 75

Write custom monitor driver

Gamma: 2.20

Color system: VSC5F1C

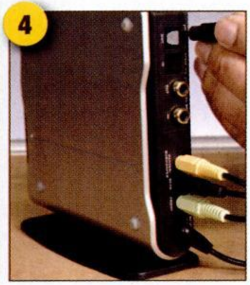
☑ DPMS supported

☑ Plug and Play

EDID revision: 1.3

Older videocards and HDTVs might require some tweaking before they'll play nice together, especially if you're using analog connections. Unlike computer monitors, most HDTVs support a limited number of resolutions and will sync only to a narrow range of scan rates. You might also need to make adjustments for overscan (to correct an image that extends beyond the edge of the display) or underscan (to eliminate black borders around the image). If you're using an nVidia card, click the Advanced Timing button, and then read and agree to the warning message to access these settings. If you're using an ATI card, you'll need to use EnTech's *PowerStrip* utility (ATI no longer exposes these controls in its latest drivers). You can get *PowerStrip* at **www.entechtaiwan.com/util/ps.shtm**. You should be able to find the info you need to configure a custom resolution in your TV's manuals.

4



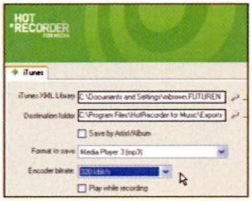
Connecting your PC's audio to your home-theater system can be problematic. If your A/V receiver isn't equipped with six discrete analog inputs, you have no way of playing DVD-Audio or Super Audio CD content, which must be transported in the analog domain. If you find yourself in this situation, pick up Creative's Home Theater Connect DTS-610 and integrate it into your system. Plug your PC's analog-audio output into it and the device will encode the 5.1-channel sound to DTS and output it over an optical SPDIF or coaxial TOSLink connection to your receiver.

ORGANIZE YOUR MP3S

If your music collection is anything like ours, it's a mess. If you want to clean up the tags on those old tracks, *Media Monkey* (**www.mediamonkey.com**) is the perfect utility.

It's super simple. First make a backup of your MP3 collection in case of disaster. Then import the collection you want fixed into *Media Monkey*. Then go to Tools, and Auto-Tag from Amazon to automatically fix all your track tags.

RIP SONGS FROM ITUNES



iTunes XML Library: C:\Documents and Settings\wbrown.FUTUREN

Destination folder: C:\Program Files\HotRecorder for Music\Exports

☐ Save by Artist/Album

Format to save: Media Player 3 (mp3)

Encoder bitrate: 320 kbit/s

☐ Play while recording

Hot Recorder for Music (**www.hotrecorder.com**) converts songs you've purchased on iTunes into MP3 or WAV files, so you can play them on any MP3 player. Click the Options menu, choose Preferences, and pick which format you wish to use (MP3 or WAV). If you choose MP3, you'll also need to decide on a bit rate. Lastly, assign a file extension (e.g., MP3) and click the Save It button.

Drag the tunes you wish to convert from the left window to the right and click the Convert button. The conversion occurs in real time, meaning a five-minute song takes five minutes to convert—so you should avoid running any math-intensive software at the same time.

Continued on page 17

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- PCApex.com

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- Virtual-Hideout.net

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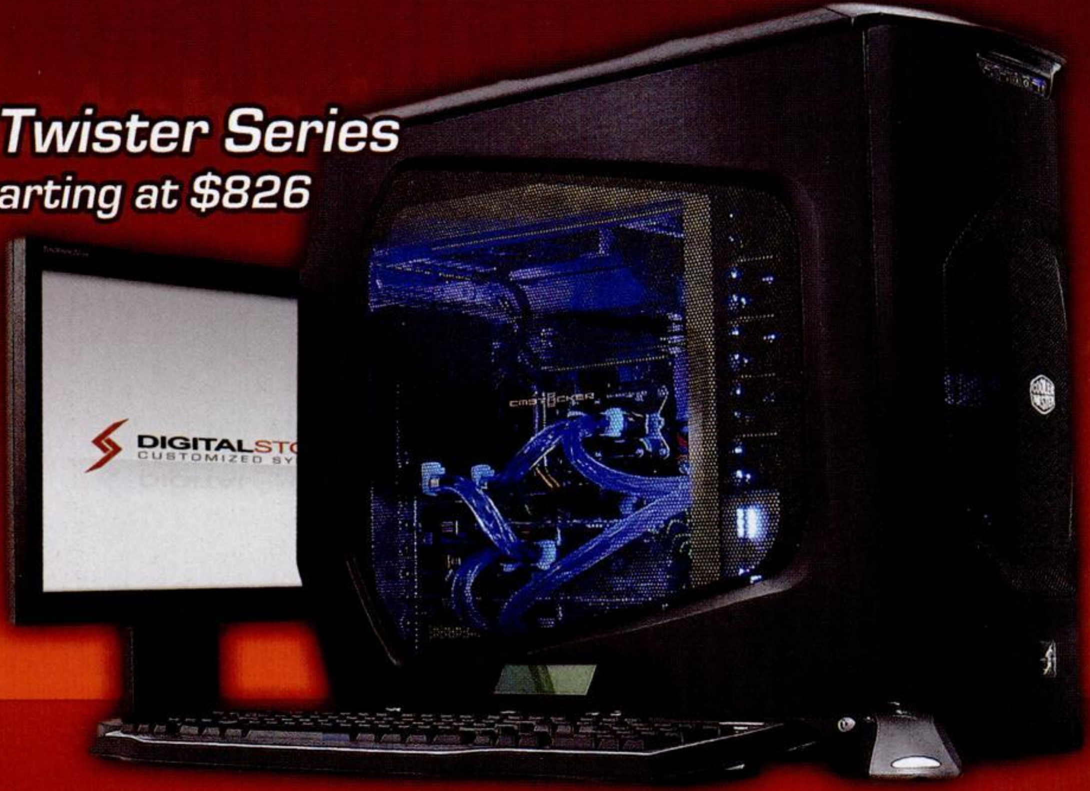

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» Alienware 6.01
» Dell 4.28

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Do-it Yourself Guide

Continued from page 14

KEEP VOIP CONNECTED

Voice over IP (VOIP) telephony is the hottest thing going these days, but unfortunately, the telephone adapters that power your VOIP service require AC power to operate. That means that when your power goes out, so does your phone. Luckily for you, it's easy to keep your VOIP line running even in a power outage, if you have a battery backup.

You'd typically use a battery backup to keep your PC running during an outage, but it'll also power most any device. If you connect your DSL or cable modem, your router, and your phone adapter to a battery backup, your VOIP line will continue working through a power failure. Because these devices draw very little power compared with a PC, even an inexpensive battery backup will power them for several hours.

HOW TO CLEAN YOUR LCD

LCD monitors are a delicate species, so proper care is essential to their longevity. There are three issues you should be mindful of: damaging the glass, damaging the antiglare coating, and damaging the surrounding parts.

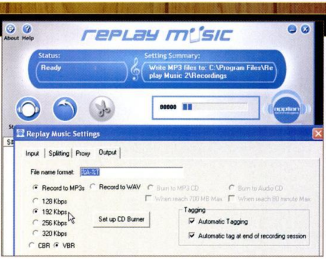
In the absence of manufacturer recommendations, you should clean your screen with water or 50-percent isopropyl alcohol, using either a lint-free cloth or a paper towel. Oily fingerprints on an antiglare coating are tough to clean, but an ammonia-based cleaner like Windex can do the job. Such solvents could damage or discolor the surrounding plastic parts, however, so never spray the screen directly. Instead spray onto a cloth, and wipe the screen with your moist towel.

Never put any pressure on the glass. Besides the risk of breakage, it changes the optical properties of the panel, usually just temporarily, but permanent damage is possible.

RIP MUSIC FROM ANY SOURCE

ReplayMusic (**www.applian.com**) strips DRM from the music you purchase or rent, so you can listen to it on any player. Click Settings and set Sound Card as your input source on the Input tab. Choose "automatically split tracks" on the Splitting tab, and "record to MP3s" on the Output tab. Choose your bit rate, select both automatic tagging options, and click OK.

Launch your streaming application and queue up the songs you'd like to record. Go back to *Replay Music,* click Start Recording, and commence streaming. At the end of the queue, *Replay Music* will analyze the tracks, and tag each one with the song title, artist name, album, and genre gleaned from Gracenote.



Status: Ready

Setting Summary: Write MP3 files to: C:\Program Files\Replay Music 2\Recordings

File name format: %A-%T

● Record to MP3s ○ Record to WAV ○ Burn to MP3 CD ○ Burn to Audio CD

☐ When reach 700 MB Max ☐ When reach 80 minute Max

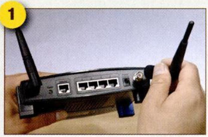
○ 128 Kbps
● 192 Kbps
○ 256 Kbps
○ 320 Kbps

○ CBR ● VBR

☑ Automatic Tagging

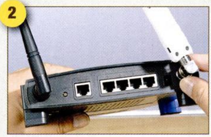
☑ Automatic tag at end of recording session

INCREASE YOUR WIRELESS ROUTER'S RANGE



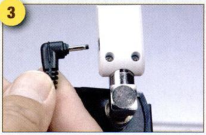
1

If you're tired of reaching the end of your wireless router's electronic leash, either because you live in a mansion or because there are just too many floors and walls in between your router and your laptop, boost its transmission power with a more powerful antenna. Disconnect the router's power supply and remove its existing antenna by twisting its collar clockwise.



2

We chose Radio Labs' WRE500MW for this task because the manufacturer claims it can increase a wireless access point's range by a factor of 30. (Note: This won't work with draft 802.11n spec routers, because the MIMO technology they use requires uniform antennae.) Secure the new antenna to the wireless access point by twisting its collar counterclockwise. Take care to align the threads so you don't strip them.



3

The WRE500MW achieves its impressive range in part because it has its own power supply. Plug the power supply into your outlet strip and plug the connector to the signal amplifier. Plug your router's power supply back in. The final step is to see how much further you can wander with your laptop!

Continued on page 19

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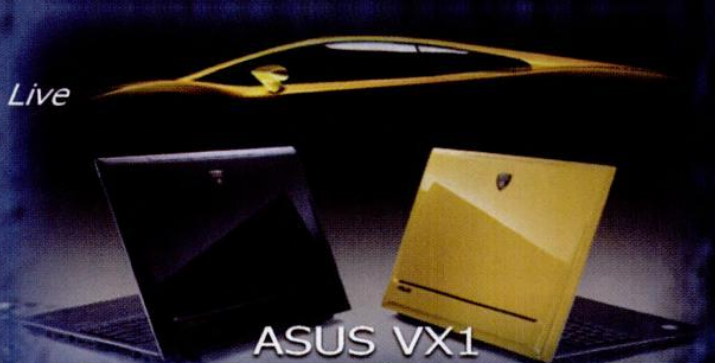

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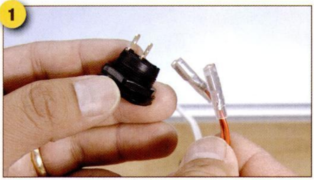
Continued from page 17

INSTALL A BAY-MOUNTED CATHODE LIGHT SWITCH

Most cold-cathode lights come with switches that mount behind your PC, in an empty PCI slot. Those switches are easy, but inconvenient, so we're going to show you how to add a light switch to an empty 5.25-inch drive bay. All you need is a round, two-pin switch, a ¾-inch drill bit, and about 10 minutes. We got our hardware at FrozenCPU (www.frozencpu.com).

1

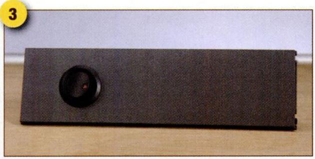


If your cold-cathode doesn't include a round switch, you'll have to buy one. They're usually available online or at Radio Shack and other electronics stores. Once you have the appropriate switch, identify the two cables that connect to the current switch. If you can, simply pull them off their connector and attach them to the round switch. If you must cut them, you can attach new female crimp-on quick disconnects (Radio Shack part #: 64-3039) to the leads.

2

Now we're going to drill the hole. We went to the store and bought a 3/4-inch drill bit, because that's the diameter of the switch. To ensure that the hole is centered, you should measure from the top and bottom of the bay cover. Use a smaller drill bit to create a pilot hole, then drill slowly with the 3/4-inch bit to make a switch-size hole. The big bit will bite hard on the plastic, so it's best to use a vise to hold the bay cover steady during drilling. After you've drilled the hole, you'll need to clean it up a bit with a file or some sandpaper.

3



If the hole is the proper size, the switch should drop right into it. Switches are secured either by flanges on their edges (like this one), or they are threaded and secured with a nut. Either type will work. Once you secure the switch to the drive-bay cover, attach the two cables from the lights and you're all done.

CAUTION!

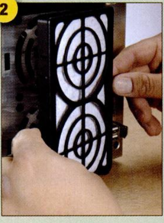
When using a drill, always wear eye protection, and do not drill on top of a table as shown in this image!

MAKE YOUR OWN KICK-ASS AIR FILTER

1

Lots of high-end cases come with handy-dandy air filters these days, but if your case doesn't, it's easy to add one. There are a ton of disposable dust rags in the cleaning aisle of your supermarket, and they make great air filters for a PC. We've used both Swiffer Dry Sweeping Cloths and Grab-It dusting cloths with success. Just trim one of these cloths to completely cover the hole over your fan intake. These filters are dust magnets, and will pull a ton of filth from the air before it can contaminate your sensitive components.

2



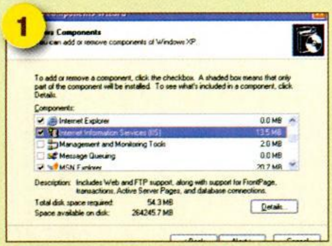
Our test case came with a filter, but we're replacing it with a Swiffer. If your case doesn't have a fan-mounting mechanism like this one, just tape the cloth over the hole with a few pieces of masking tape. It works just as well, and you'll immediately notice a difference in the cleanliness of your case. Make sure you replace the filter every few months; a homemade filter clogs much more quickly than a traditional one, and can adversely impact airflow in your case.

Continued on page 20

Continued from page 19

USE VIRTUAL SERVER 2005 TO BUILD A BULLETPROOF TEST ENVIRONMENT

1



Components
can add or remove components of Windows XP.

To add or remove a component, click the checkbox. A shaded box means that only part of the component will be installed. To see what's included in a component, click Details.

Components:

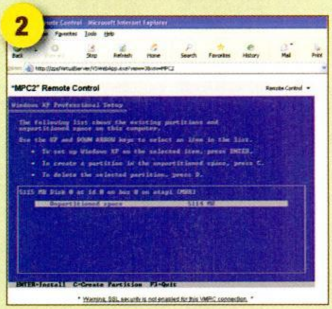
☑	Internet Explorer	0.0 MB
☑	Internet Information Services (IIS)	13.5 MB
☐	Management and Monitoring Tools	2.0 MB
☐	Message Queuing	0.0 MB
☑	MSN Explorer	20.7 MB

Description: Includes Web and FTP support, along with support for FrontPage, transactions, Active Server Pages, and database connections.

Total disk space required: 54.3 MB
Space available on disk: 264245.7 MB

By testing questionable software inside a virtual machine in Windows, you ensure that naughty apps won't contaminate your rig with malware. There's easier virtualization software out there to use, but none as cheap as Microsoft's free *Virtual Server 2005* (**www.microsoft.com/virtualserver**). Before you can run *Virtual Server RC2*, you'll need to install *IIS* on your XP Pro machine. To do this, go to Control Panel, then Add or Remove Programs, and click Add/Remove Windows Components. Check *IIS* and click install. Installing *IIS* on a machine that's exposed to the Internet is risky, so make sure to disable *IIS's* access to the network using your firewall. Alternately, you could use either *Virtual PC 2004* or *Vmware Workstation 5.5*.

2



Remote Control - Microsoft Internet Explorer
Favorites Tools Help
Back Stop Refresh Home Search Favorites History Mail Print

"MPC2" Remote Control

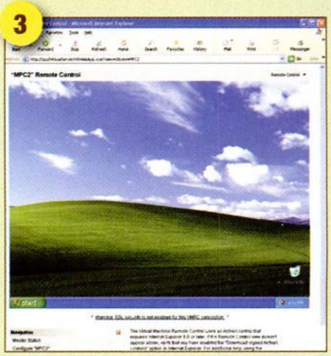
```
Windows XP Professional Setup

The following list shows the existing partitions and
unpartitioned space on this computer.

Use the UP and DOWN ARROW keys to select an item in the list.

  • To set up Windows XP on the selected item, press ENTER.

  • To create a partition in the unpartitioned space, press C.

  • To delete the selected partition, press D.

5115 MB Disk 0 at Id 0 on bus 0 on atapi (MBR)

      Unpartitioned space                 5114 MB

ENTER=Install  C=Create Partition  F3=Quit
```

* Warning: SSL security is not enabled for this VMRC connection. *

To create a virtual machine, start *Virtual Server.* Under virtual machine, click Create. Give your VM a name, set the amount of RAM you'd like the virtual machine to use (we recommend about one-quarter of your overall system RAM), and how much space to allocate for the virtual hard drive (5GB should cover a standard Windows XP install). Click Create and click the small thumbnail that appears. Click it again to expand the window and you'll see a familiar prompt asking you to insert a boot disk. Insert your Windows XP Pro disk into the drive and install Windows.

For more on Virtual Machines, see story on page 44.

3

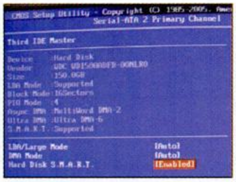


"MPC2" Remote Control

Once you have your machine created, you should install the latest patches for the OS and take the normal security measures that you would with a fresh Windows install. When you've patched and secured the OS, you should make a backup of the file containing your virtual machine. It's stored in a subfolder of the Shared Documents folder (just grab all the contents of the C:/Documents and Settings/All Users/Shared Documents/Virtual Server/Folder). When you need to test a questionable app, fire up the virtual machine, install it there, and then scan the drive for potential problems. If the VM gets infected, ditch the app, and restore your virtual machine to its pristine state—it's as easy as replacing the file with the one you backed up.

MONITOR YOUR HARD DRIVE WITH SMART

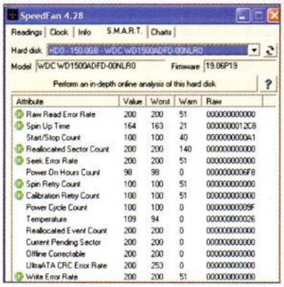
SMART stands for Self-Monitoring and Reporting Technology, a technology built into all hard drives to help predict failures. Most motherboards have this feature turned off by default, though. We'll show you how to turn it on and see the information it's reporting.



```
CMOS Setup Utility - Copyright (C) 1985-2005, Amer
                    Serial-ATA 2 Primary Channel

Third IDE Master

Device     :Hard Disk
Vendor     :WDC WD1500ADFD-00NLR0
Size       :150.0GB
LBA Mode   :Supported
Block Mode :16Sectors
PIO Mode   :4
Async DMA  :MultiWord DMA-2
Ultra DMA  :Ultra DMA-6
S.M.A.R.T. :Supported

LBA/Large Mode                    [Auto]
DMA Mode                          [Auto]
Hard Disk S.M.A.R.T.              [Enabled]
```

The first thing you need to do is enable SMART in the BIOS. Navigate through your BIOS until you find the SMART setting. It's usually labeled Hard Disk SMART or something similar. Enable it, save your changes, and reboot the PC. Now your drive will monitor itself, and if there's a problem your PC will let you know during the boot process. If you see this message, back up the drive immediately, but don't shut down the system—the drive might not survive a shutdown.

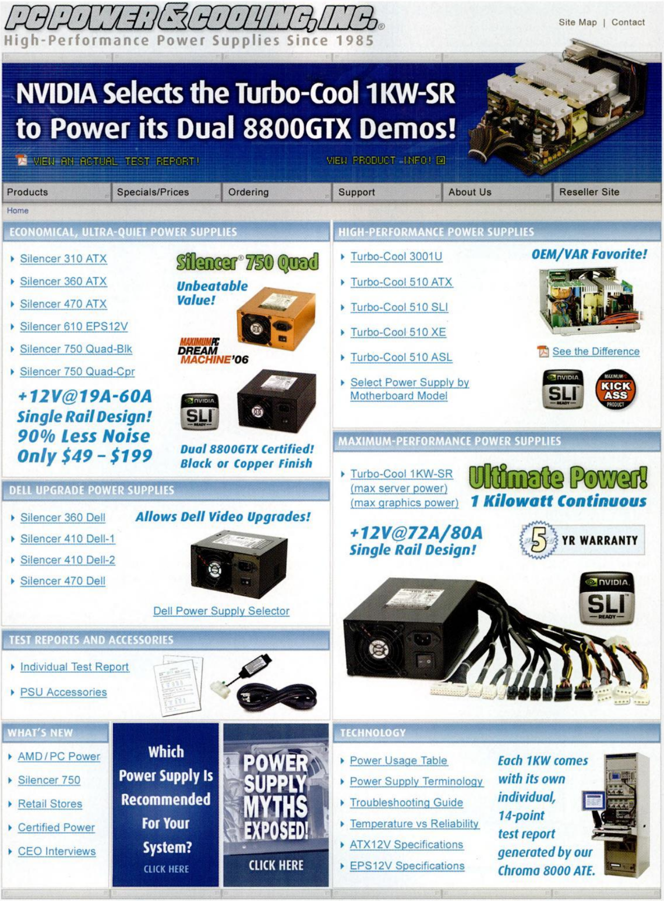
If you want to see the information the drive reports, download *Speedfan* (**www.almico.com/speedfan.php**). Fire up the utility, click the SMART tab, and select which drive you'd like to examine. It'll show you all the information returned by the drive, as well as the drive's self-described "fitness" and "performance." A warning in any of these categories means the drive could be singing its swan song.



Hard disk: HD0 - 150.0GB - WDC WD1500ADFD-00NLR0
Model: WDC WD1500ADFD-00NLR0
Firmware: 19.06P19

Attribute	Value	Worst	Warn	Raw
Raw Read Error Rate	200	200	51	000000000000
Spin Up Time	164	163	21	0000000012C8
Start/Stop Count	100	100	40	0000000000A1
Reallocated Sector Count	200	200	140	000000000000
Seek Error Rate	200	200	51	000000000000
Power On Hours Count	98	98	0	0000000006F8
Spin Retry Count	100	100	51	000000000000
Calibration Retry Count	100	100	51	000000000000
Power Cycle Count	100	100	0	00000000009F
Temperature	109	94	0	000000000026
Reallocated Event Count	200	200	0	000000000000
Current Pending Sector	200	200	0	000000000000
Offline Correctable	200	200	0	000000000000
UltraATA CRC Error Rate	200	253	0	000000000000
Write Error Rate	200	200	51	000000000000

Continued on page 22



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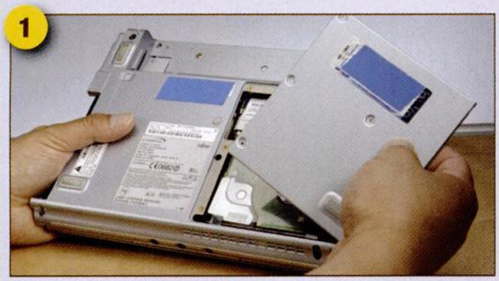
Continued from page 20

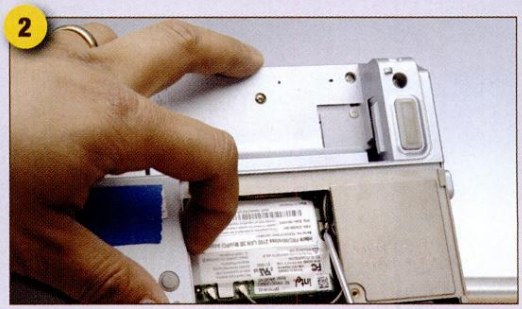
UPGRADE YOUR NOTEBOOK'S WI-FI

1



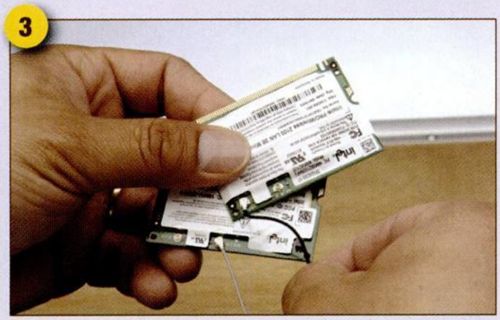
Because Mini PCI Express cards are almost always compliant with the latest Wi-Fi specs, we're only showing you how to upgrade older Mini PCI-powered 802.11b notebooks to 802.11g and 802.11a standards. First, power down your notebook and remove the battery. Then remove the access plate covering the Mini PCI slot. Put the screws in a cup or container so you don't lose them.

2



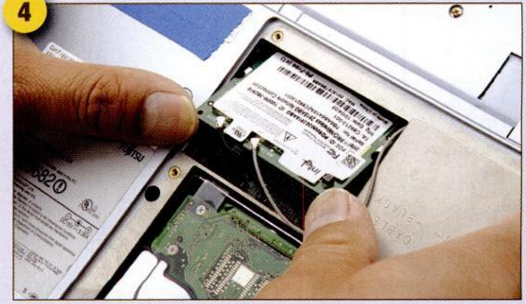
Use a screwdriver to release the arms that hold the card in place. When the arms are clear of the card, the card should spring up at an angle. Be careful not to disconnect the antenna leads. You'll want to leave the wires in place, so you can attach them to the new card in the next step.

3



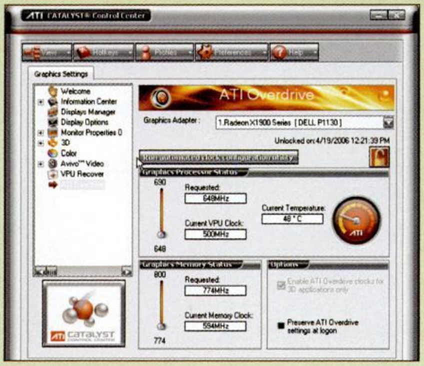
You can now remove the card from the slot. To keep the antenna wires from getting mixed up, you should place the new card next to the old card and connect the antennas to the new card, one at a time.

4



Insert the new card into the slot at a 45-degree angle until the edge connectors are just barely visible and carefully tilt the card back down until the retention arms lock it into place. Boot your notebook, install your drives, and you're ready to go!

AUTOMATICALLY OVERCLOCK YOUR ATI GPU



Graphics Adapter: 1.Radeon X1900 Series [DELL P1130]

Unlocked on: 4/19/2006 12:21:39 PM

Graphics Processor Status

Requested: 648MHz

Current VPU Clock: 500MHz

Current Temperature: 48 °C

Graphics Memory Status

Requested: 774MHz

Current Memory Clock: 594MHz

Options

☑ Enable ATI Overdrive clocks for 3D applications only

■ Preserve ATI Overdrive settings at logon

ATI CATALYST® Control Center
View
Hotkeys
Profiles
Preferences
Help
Graphics Settings
Welcome
Information Center
Displays Manager
Display Options
Monitor Properties 0
3D
Color
Avivo™ Video
VPU Recover
ATI Overdrive
Run automated clock configuration utility
690
648
800
774
ATI
ATI CATALYST CONTROL CENTER

ATI makes overclocking *some* of its GPUs ridiculously easy. If you're running a model that ATI believes can tolerate a higher frequency, simply launch the Catalyst Control Center (using the Advanced option) and click the Unlock icon to activate the company's Overdrive utility. Although ATI officially warns that it won't be responsible for problems occurring as a result of using OverDrive, using it has no impact on your warranty.

Click the button labeled "Run automated clock configuration utility" and the software will sequentially step up the clock speeds on the memory and GPU to the maximum values the components can tolerate. Place a checkmark next to "Preserve ATI Overdrive settings at logon," so that the settings stick after a reboot.

Continued on page 24

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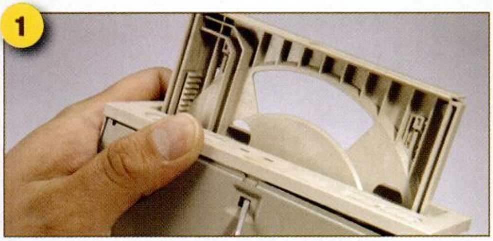
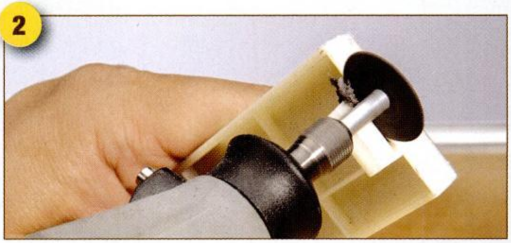
CREATE A CAMOUFLAGED OPTICAL DRIVE COVER

A beige optical drive in a silver or black case sticks out like a sore thumb. Here's how to attach one of your drive bay covers to the optical tray for a much cleaner look.

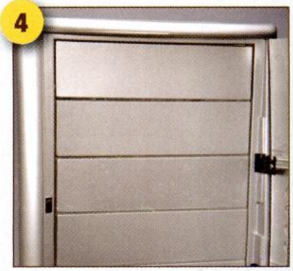


First, you'll need to remove your old bezel and tray covers from your optical drive. Eject the optical drive tray a smidge by poking a paper clip into the eject hole. Next, grab a small, flat-head screwdriver and depress the tabs that hold the bezel cover onto your drive chassis. Then pry the bezel off of the chassis. Finally, grab the cover on the optical tray itself and carefully slide it down and off the tray.



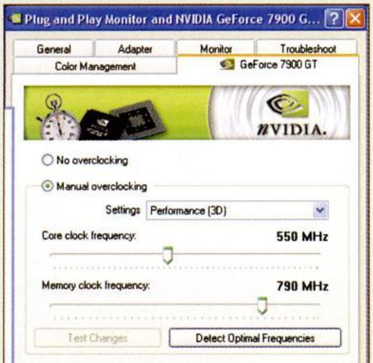
Next, you'll need to modify the bezel cover so it fits into the case. It's easier if you have plastic bezel covers, but it will also work if you have metal. Shave off any tabs that would lock the bezel in place, and cut anywhere you need to so the bezel cover will be able to retract into the case without getting hung up on the case.

To mount the bezel on the drive, you'll want to slide the drive into the case. Eject the optical tray partially, and apply your crazy glue, epoxy, or rubber cement to the front of the tray. Then align the bezel with the tray—taking care to make sure the bezel will line up with the hole in the case—and mount the bezel to the drive tray. Let it sit long enough to create a strong bond. When the glue sets, screw the drive into your system and you're done!



The only downside to our optical drive cover is that it blocks your eject button. In order to open your drive, you'll have to right-click it in My Computer and click Eject (alternately, you can use the EjectMe! Widget for Yahoo Widgets), but that's a small price to pay for such an exquisite look.

AUTOMATICALLY OVERCLOCK YOUR NVIDIA GPU


Plug and Play Monitor and NVIDIA GeForce 7900 G...

○ No overclocking

● Manual overclocking

Settings: Performance (3D)

Core clock frequency: 550 MHz

Memory clock frequency: 790 MHz

☐ Apply these settings at startup

nVidia's *Coolbits* overclocking tool is very powerful and can damage your GPU if used carelessly. It will also void your warranty—you've been warned.

First, you'll need to enable *Coolbits*. Click the Start menu, choose Run, type regedit, and click OK. Scroll down the left-hand window to the item labeled "HKEY_LOCAL_MACHINE\SOFTWARE\NVIDIA Corporation\Global\NVTweak." Click the + button and select NVTweak. Right-click the right-hand menu and choose "New DWORD value." Name this Coolbits and change its value to either 3 (for a single card) or 1A (for SLI). Exit the Registry, open the Display Control Panel, and choose Clock Frequency Settings. Click Detect Optimal Frequencies to have Coolbits automatically increase core and memory clock speeds; alternatively, you can select specific values using the sliders, testing each for stability at each step.

Continued on page 26

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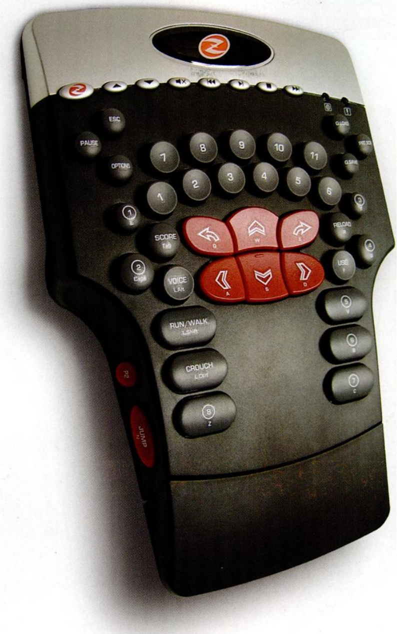
ESC
PAUSE
OPTIONS
7
8
9
10
11
1
2
3
4
5
6
SCORE
Tab
VOICE
L Alt
Q
W
E
A
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D
RELOAD
R
USE
F
RUN/WALK
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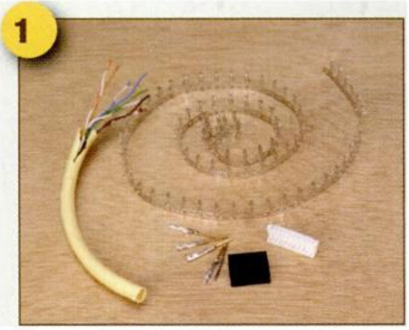
Continued from page 24

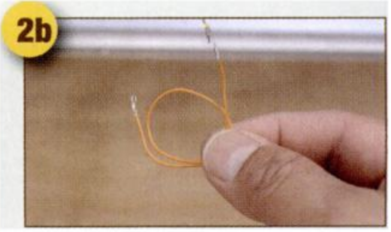
PLUG YOUR X-FI INTO THE FRONT-PANEL CONNECTORS ON YOUR CASE

After seeing Velocity Micro's front-panel adapter for Creative Labs' X-Fi cards, we decided we had to build our own. But where do you get the parts? While searching for parts, we discovered Melechric's http://audigy2zshowto.blogspot.com site, and saw that he'd already done the legwork with the old Audigy 2 ZS. The harness happens to be the same for the X-Fi but we made a few modifications to actually pattern ours after Velocity Micro's design.

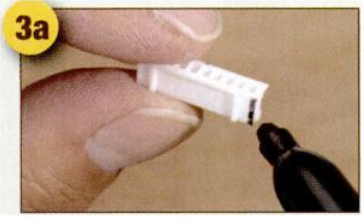


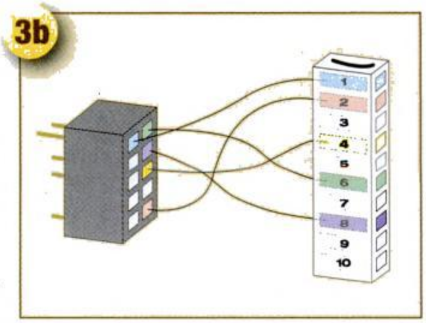
First you'll need to collect your parts. We purchased the white 10-position, 2mm connector (part no. 455-1151-ND) that snaps into the soundcard's front panel connector, from Digikey.com. The small terminal connectors that hook into the 10 position connector are part No. 455-1127-1-ND. We also bought black connector housings (WM2522-ND) that will be used to hook into the case's front panel audio connectors, and large terminal connectors that will go into the black housing block (part no. WM2515-ND). You should also grab an old Ethernet cable to use for wire.

You'll also need small needle-nose pliers and a good set of wire cutters. How many parts do you need? The absolute minimum is one white 10 position connector, one black housing block, and five of each terminal connector. That's assuming you won't make any mistakes building the harness. We recommend that you buy plenty of extra parts, just in case.

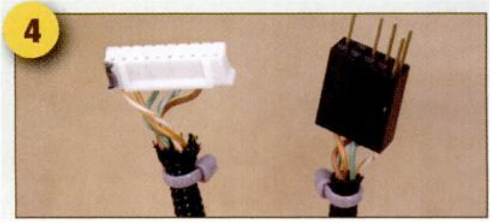


Cut a five-inch section of network cable and separate the individual stands. You'll need a total of five wires for this project. Strip 2mm of insulation from each end of the individual wires. Carefully crimp a small connector to one side and a large connector to the other side of each wire. Repeat until you've made five





Position the white 10-position connector so the two tabs are facing you. Take a Sharpie and mark one corner. This will be position 1. Starting from position 1, insert a wire using the small connector side. The wire should fit only one way without needing to be forced and the small metal tab on the connector should lock into a plastic tab when you insert it far enough. Counting from position 1, you'll want to insert wires into positions 1, 2, 4, 6, and 8 (refer to image 3b). The rest should remain empty. Position 1 is ground, 2 is the headphone left output, 4 is the headphone right output, 6 is the MIC input, and 8 is the voltage for the microphone.



If your case uses a front-panel audio connector that's individually wired, you should be able to match the left/right, mic, ground, and mic power wires to your case and plug each one in individually. Make sure, however, that each wire is insulated from the others, a short can damage your soundcard. A small bit of electrical tape or even Scotch tape will do the trick. We actually went a little further and inserted the longer connectors into the black housing block and sheathed the harness in a mesh sleeve.

HOW TO DISPOSE OF WATER-COOLING LIQUID

Most water-cooling kits include an anti-algae formula that's part glycol—a toxic substance. If you use it, you cannot simply pour the liquid down the drain when performing a system flush. Instead, you must call the local fire department and ask about the county's hazardous waste disposal policy. In San Francisco, we have to take used coolant to the local trash disposal site. A safe and sound alternative is to use a non-toxic coolant, such as Fluid XP or Danger Den's MCT-5/MCT-40, which you can just pour down the drain.

AND THAT'S A WRAP!

OK, that's it for this year's DIY spectacular! We're always on the lookout for more great how-to stories, though; so if you've got a how-to or DIY project that you'd like to see in *Maximum PC*, send it our way! The email address is **input@maximumpc.com.** MPC

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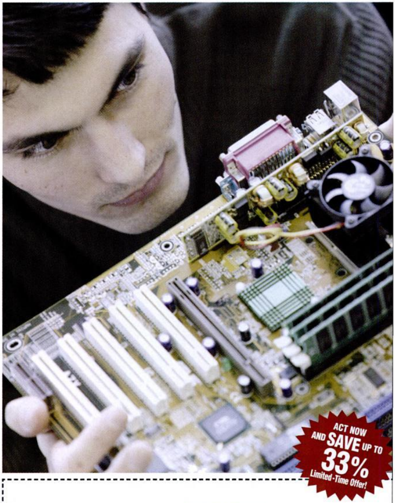

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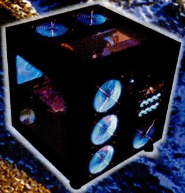

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9/10

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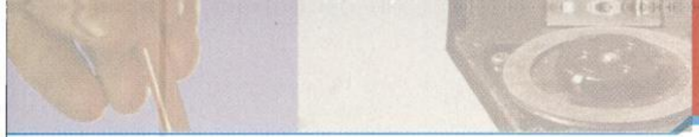
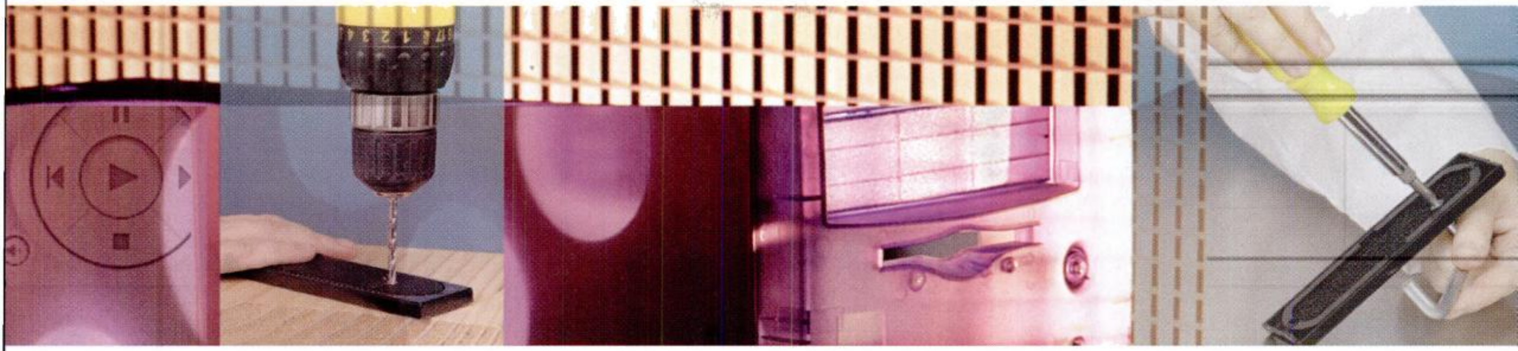




Add a Drive Bay Drawer to Your PC

With a little know-how and a few common tools and materials, you can add a drawer to the front of your case, and use it for storing PC-related odds and ends.

TIME **2:00** HOURS:MINUTES

Having a built-in drawer in your case's front bezel is pretty handy. It's a convenient place to keep excess screws, small tools, spare cables, and even a flashlight. We wanted our drawer to blend perfectly with our case, and to be big enough to hold a fair amount of hardware.

We also wanted to accomplish this project without the need for metalworking tools. That pretty much limited us to using a case that's equipped with drive rails, to act as the sliding mechanism for the drawer—installing drawer rails is more than a little beyond our cabinetry abilities.

After testing several different cases, we found that the ones with metal rails work best—plastic rails tend to snag when you slide them, making it more difficult to move the drawer in and out. It's also better to have a case with rails that actually protrude beyond the front bezel, such as the Aspire X-Navigator used here (**www.aspireusa.net**).

BY WILL **SMITH**

WHAT YOU'LL NEED

- **DRILL**
- **HACKSAW**
- **VARIABLE-SPEED JIGSAW**
- **DREMEL TOOL**
- **SAFETY GOGGLES**
- **RUBBER GLOVE**
- **ALL-PURPOSE ADHESIVE**
- **CLAMPS**
- **A DRIVE BAY-SIZE BOX**
  We used Container Store part no: 10025992, $15
- **ASSORTED HARDWARE**
- **CABINET HANDLE**
- **JOINING COMPOUND**

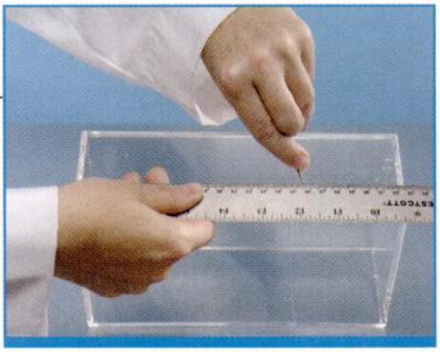
1 Measure and Mark

We found the box for our drawer at The Container Store (**http://tinyurl.com/llcbw**). It's nearly the perfect width, but it's too long to mount flush in the case. To fix that, we cut off one end using a jigsaw. To fit in a standard 5.25-inch bay, your drawer shouldn't be more than 15.5cm long, without the bezel mounted.

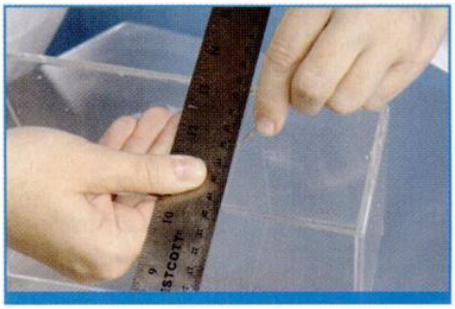
The old carpenter's rule applies here—measure twice, then cut. Mark 15.5cm on all three sides, as shown in the

1 Measure and Mark

picture. We used a sharp Dremel bit to lightly scratch the marks into the plastic sides of the box. Once you've marked both edges of a side, you can use a straight edge and your marking implement to scratch the guideline you'll use when cutting off the end of the box.



It's important to mark the edges at exactly the same distance, otherwise it will be impossible to make a straight cut.



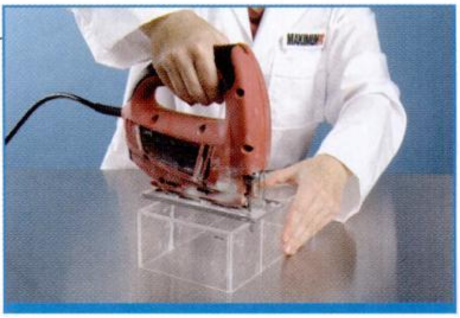
Use a straight edge to mark your cut line across the side of the box. You'll use this line to guide you when you cut off the end of the box.

2 Cut the Box and Make Shims

After you've marked the three sides of the box that will be cut, it's time to don your safety goggles and fire up your jigsaw. Variable-speed jigsaws work best; you'll need to start slow in order to keep from melting the plastic, or creating jagged edges. We recommend using a multipurpose bit, suitable for metal or plastic. If you don't have a variable-speed jigsaw, any hacksaw will do the job—it will just take a few minutes longer.

Cut the sides of the box first, then cut the bottom of the box (as shown in the image). You'll want to support the edges, and be very careful not to move your fingers in the path of the blade. Be sure to stop your cut before you reach the edge, the lower portion of the blade shouldn't come in contact with the uncut sides of the box.

Once you've finished the main cut, you'll want to cut a couple of excess pieces of plastic to use as shims. Cut the shims to be about the same size as your case's drive rails. The box we're using is just a touch too narrow for a standard drive bay. We'll use the shims to fill the gap, and make a nice tight fit for the drawer.



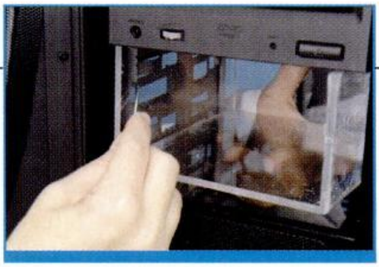
Be very careful when you're cutting with a jigsaw. Cut on the slowest speed at which you see any progress, to avoid jagged, uneven edges on your drawer.

3 Mark the Rails and Glue the Shims

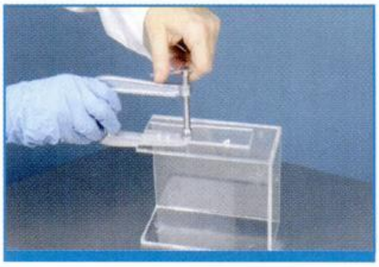
Next, you'll want to slide the drawer into the case, to see where you need to place the drive rails. Leave enough room at the top of the slot to slide the drawer out, and make sure that the bottom of the drawer clears the slot cover on the bezel below. With the drawer placed where you like it, scratch a mark that aligns with the top edge of the drive rail's slot in the case.

Remove the drawer from the case, and measure the distance from the top of the drawer to the mark you made. Make another mark further back along the drawer, and repeat the marks at the same height on the other wall of the drawer. You'll use these marks to align the shims and the drive rails when you mount them.

Next, you'll want to glue the shims to the outside of the drawer. Don your rubber gloves and apply a small amount of multi-purpose adhesive down the length of the shim. Using the marks you made, mount the shim on the drawer, and clamp it into place. Let it sit until the glue has cured—usually five minutes—then repeat on the other side of the drawer.



Slide the drawer into the case, and mark where the rail slots on the case meet the drawer.



If you first glue the shims to the drawer it will be easier to drill through them when mounting the drive rails.

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4 Mount the Handle

While you're waiting on the glue from the previous step to cure, you can mount the handle on one of your case's bezels. First you'll drill a couple of holes through the bezel.

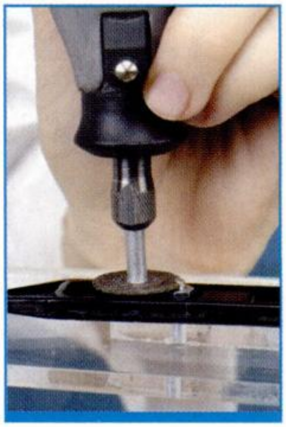
Then you'll screw the handle onto the bezel. Be careful not to over-tighten, or you'll warp or crack the bezel.

It's a good idea to give the glued shims 10 or 15 minutes to cure before you start drilling, so we'll use the break to mount the handle on one of the case's bezels. Mounting the handle is pretty simple, but you need to measure carefully to make sure you don't end up with an off-center handle. You may also need to use the Dremel to shorten the screws that come with the handle. They're usually mounted through a few inches of wood, so they'll be much too long for our millimeters-thick case bezel.

Mount the screws in a vise (if you don't have a vise, you can use a pair of pliers), put a cutting blade on the Dremel, and cut all but a half-inch or so off both screws. Then, using a Dremel bit that's slightly larger than the screws that came with the handle, drill two holes for the handle in the center of the bezel. Mount the handle on the two holes—it's a good idea to use a large washer on each screw, so that you don't accidentally rip the handle off of the bezel.

5 Mount the Drive Rails

Before you can mount the rails, you'll need to drill a hole through the rail, and the side of the drawer.



Once you've bolted the rails to the drawer, you'll need to cut any protrusions off with the Dremel, or your drawer won't open and close.

Now it's time to measure and drill the holes you'll use to mount your drive rails onto the case. Make sure you use a drill bit that's appropriate for your rail material—a metal bit for metal rails and a multipurpose bit for plastic rails. It's crucial that you make sure the rails are perfectly level, or your drawer will hang when you slide it in and out of the case. We recommend using two holes per rail to secure the rails in place.

Once you've drilled the holes, you can use your screws, nuts, and washers to mount the rails. You'll need to use the Dremel tool to cut down the screws so the drawer will slide in and out of the case. Be sure to wear eye protection when you use the Dremel!

After the rails are mounted, slide the drawer into your case. You might need to either trim or bend metal protrusions in the slots if they block the drawer. You might also need to make small adjustments to the alignment of the rails, if the drawer's movement isn't smooth. Once you're happy with the movement of the drawer, move on to the next step.

6 Glue the Bezels

The last step is to trim any protuberances from the slot covers you're going to use, so they'll slide in and out of the case easily. Then, slide the drawer back into the case, and apply glue to the front edge of the drawer. Make sure the glue you're using is designed to join the materials your drawer and bezel are made of. Place the bezels on the glued edges, and apply pressure until the glue sets. You'll probably want to do one bezel at a time. After five minutes, the glue will be set, but we recommend letting it set for 24 hours before you put pressure on the seal. MPC

Finally, you'll need to glue the bezels onto the drawer. To ensure proper alignment, it's best to mount the drawer in the case, before you glue on the bezels.

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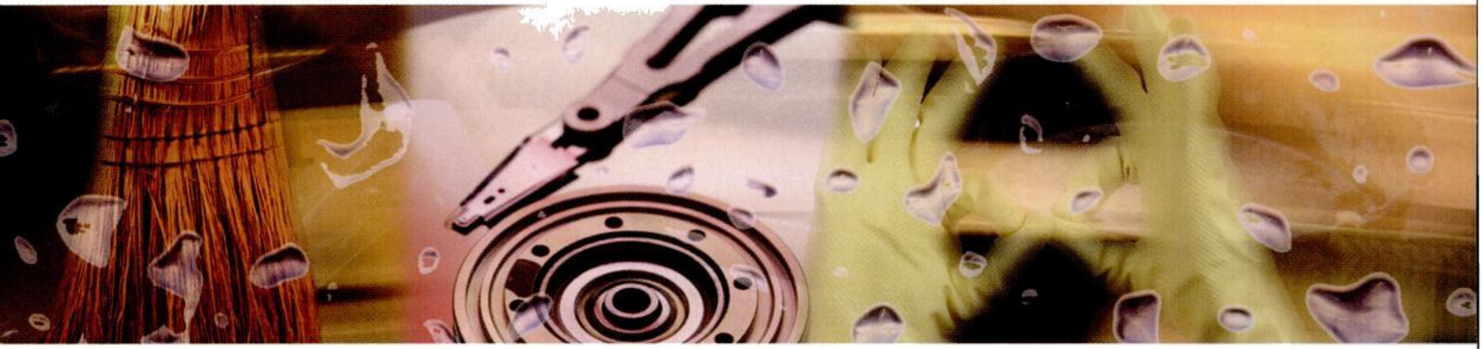

Clean Your PC **the Right Way**

The inside of your PC can be a scary place. No, we're not afraid of our gear, but we're terrified of the grime!

TIME **02:04** HOURS:MINUTES

You're the kind of guy who's serious about keeping his file system clean. You archive every revision of every file you've ever worked on. Your MP3 collection is indexed more ways that Rob Gordon's. Giving your photos proper names and tags isn't enough for you—you geotag each shot with its latitude and longitude. Your desktop isn't filled with icons. You have the cleanest hard drive ever.

But, that's just data. When you crack your rig's case, you find a dirty, stinking mess inside. Your case hasn't been taken over by dust bunnies; you've got dust elephants in there—and they're out for revenge! But don't worry. Cleaning your computer is fairly easy; you just need a can of air, some lint-free cloths, and a few hours. The benefit: Not only will your PC look better, but your cooling devices will move more air and run more efficiently. Before you get started, you'll want to disconnect your machine from the rest of your hardware and move it to a clean work area.

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- **PHILLIPS SCREWDRIVER**
- **SWIFFER SWEEPER CLOTH**
- **MASKING OR DUCT TAPE**

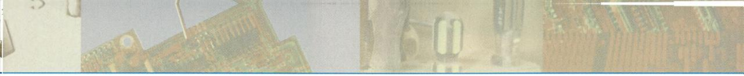
CLEAN YOUR CASE FILTERS AND FANS

The very first thing you need to do is pop off the front bezel and clean out the dust and cruft from around the fans. If your case is really dirty, there's going to be dust caked around everywhere air moves into the case.

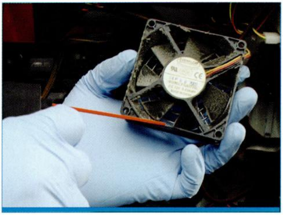
If your case already sports filters, carefully remove them, wash them with warm water, and let them air dry for a day or two. Once they're dry, remount them. If your case doesn't have filters, don't worry; we'll show you how to make them.

Next, clean the dust out of your intake and exhaust fans (skip your CPU fan for the time being, we'll take care of it later). First, use compressed air to knock off as much

If your rig comes equipped with a filter, you'll need to clean it occasionally. Take it out of the holder and give it a good rinsing!



dust as possible. It's likely there will still be dust left after this step, so next, you'll need to wet a towel with isopropyl alcohol and carefully wipe each blade. Depending on the direction the fans face, you might need to actually remove them from the case in order to fully clean them. Removing a fan from your case is usually as simple as either removing the four screws that hold it in place or unclipping a retaining mechanism. After you've cleaned the fan, make sure you remount it facing the same direction—the fans should suck air through the front of the case and exhaust it out the rear.



A can of compressed air makes it easy to blast the dust and grime that gets caked onto your fans.

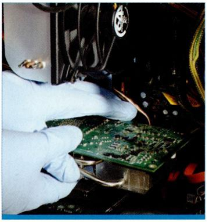
Gunked-on grime can be challenging to remove. You may need to use some rubbing alcohol and a paper towel to get your fan blades clean.

BLAST YOUR CPU FAN AND COOLER

Cleaning your CPU cooler is a little trickier. We firmly subscribe to the "if it ain't broke, don't fix it" school of thought, so we generally recommend against disconnecting the cooler from the system. However, if you can't clean the cooler when it's mounted to your mobo, you can remove it. Blasting the dust from dirty CPU coolers has given us hefty cooling improvements in the past.

We recommend holding a paper towel on one side of the CPU cooler and blowing compressed air at it from the other side. While this isn't totally effective at keeping dust from spreading to other areas of your case, it makes it easy to see where the dust is going and is definitely better than doing nothing. Once you've pushed all of the dust out of your cooler's fins, you should start working on the fan and the exterior of the cooler with an alcohol-soaked paper towel. When you're cleaning the fan, be very careful not to push down on the blades with too much force. You don't want to break the fan by bending its shaft.

CLEAN YOUR VIDEOCARD

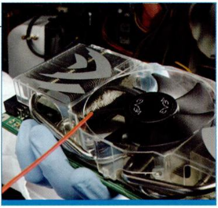


Before you can clean your videocard, you'll need to remove it from its slot.

The next component on Felix Unger's tour of your PC is the videocard. You'll want to pull your videocard (or videocards) from your system to give the fans a good going over. If your card sports one of those fancy two-slot coolers—complete with heat pipe and air shroud—you're going to want to affix the straw to your canned air's nozzle and use it to blow all the dust out of the end of the air tunnel.

If your card has a standard cooler, you'll still want to take a look at it with your flashlight and make sure you blow the dust off of the fins. It's fairly simple to do, but if you miss any large chunks of grime, you can actually make your GPU cooling situation worse by blocking airflow when you previously had no problems.

Once you've blown the dust off, take a look at the fan blades and the rest of the card. Using your alcohol-moistened paper towel, wipe the fan blades down and clean off any other dust you see. Leave the videocards out of your case for the time being.



Compressed air comes back into play with the GPU cooler. Give the cooler a few quick blasts to clear away dust.

REMOVE AND CLEAN YOUR MOBO

It's rarely necessary to remove your motherboard to make your machine look right, but anyone who's upgraded an older machine knows that the area under a motherboard is usually smothered in dust. True, it's not critical to clean it out, and no one else will know it's filthy under there. But if you're a completist, it's only a moderate pain in the ass to clean out the nether regions beneath your mobo; all you need to do is disconnect all the cables, unscrew the mobo, and remove it from the case. Once you've done that, wipe down the bottom of the case to get the dust out.

With the cables disconnected, it's a good time to give them a quick once-over; the SATA and PATA cables are the worst culprits for dust and grime collection. Take your alcohol-moistened towel and run it along each cable. This will remove dust buildup and leave them looking brand new. Finally, pull your memory and give the heat spreaders

We like to take a moment or two to give our cables a good cleaning. It won't make your rig faster, but it will look better!

If air moves over your memory, it can get covered in dust. Wipe the sticks with some rubbing alcohol to clean them.

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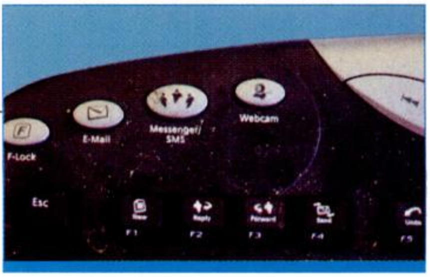
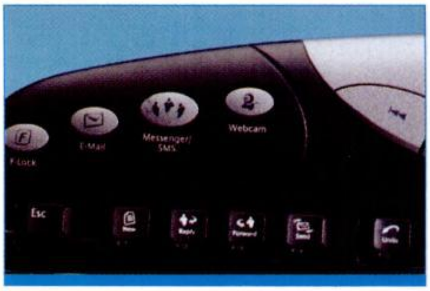
CLEAN YOUR KEYBOARD

Most avid computer users are intimately familiar with the condition known as keyboard crud—that coating of accumulated dust, crumbs, spilled drinks, and even animal fur that not only looks disgusting but also impedes your keyboard's performance. Well, you can easily clean that Petri dish of a peripheral by running it through the dishwasher. We've done it. It works. It won't destroy your keyboard (probably).

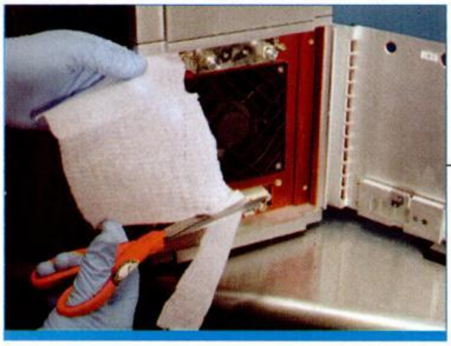
First, give your board a good shaking to remove any loose debris. Use a Zip tie to bundle up the keyboard's cord, so it doesn't flop around in the wash. (We don't recommend using this technique with wireless keyboards.) Place the keyboard on the top tray of the dishwasher, with the keys facing down. Add just a smidge of dishwasher soap—approximately one teaspoon. Make sure the dishwasher's heated dry cycle is disabled—it could melt your keyboard. If you can't deactivate heat dry, try the gentle cycle or make sure you stop the dishwasher before drying starts. Once the board has been washed, let it drain facedown on a towel for a few days—shake it to ensure no water remains inside. To speed up the drying process, you can pop off the keys and dry the parts manually.



In our before shot, you can see that this keyboard was absolutely filthy.



After a run through the dishwasher and a four-day drying, our keyboard looked brand new, and worked well to boot!



If your case doesn't come with filters, you can make some using a Swiffer pad.

INSTALL FILTERS

We've run this tip before, but it's too good not to share again. Installing filters over your case's intakes is quick, easy, and painless. And, it's the simplest way to make sure you don't have to clean out your case again anytime soon.

To make your filters, you'll want to get some dry Swiffer pads or a similar floor-dusting product. These cloths attract and trap a ton of dust, aren't particularly expensive, and can be cut to fit pretty much any size fan. Just trim the Swiffer to cover the fan and the area around it, then tape it down, leaving no gaps for air to leak into. MPC

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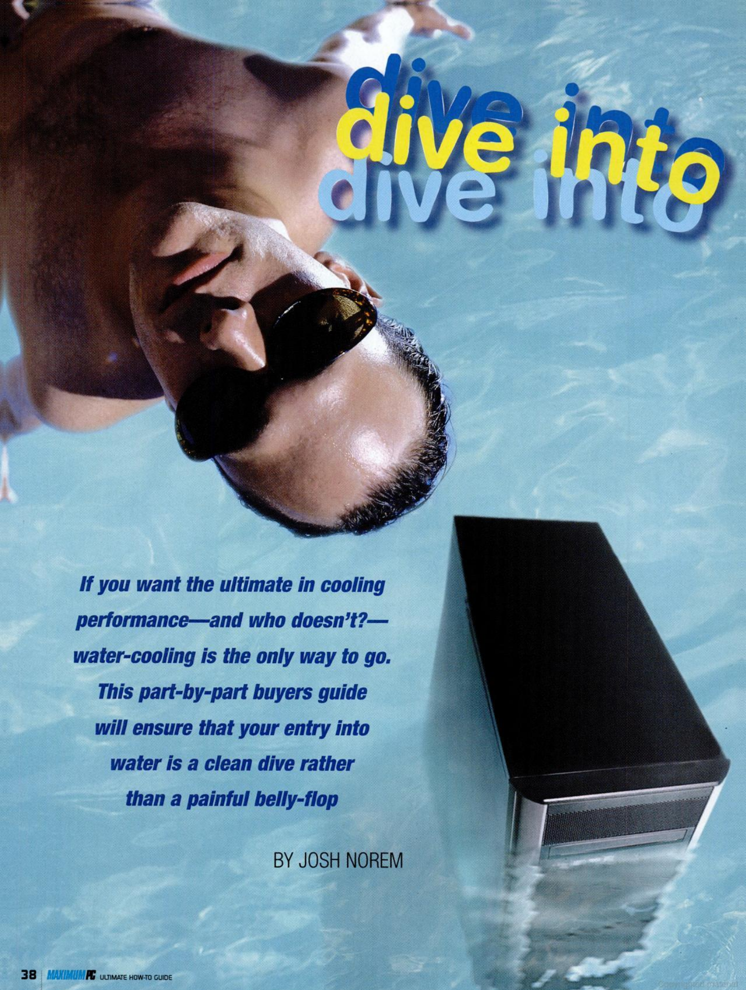


If you want the ultimate in cooling performance—and who doesn't?—water-cooling is the only way to go. This part-by-part buyers guide will ensure that your entry into water is a clean dive rather than a painful belly-flop

BY JOSH NOREM

water cooling

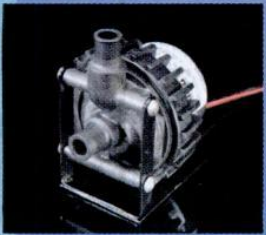
At first blush, water-cooling a PC seems about as wise as spending an afternoon in Mexico drinking the local water, eating road-side tacos, and then paragliding over a crowded beach. Of course, using water to cool your PC isn't that foolish. In fact, it's not foolish at all: Water-cooling is the best bang-for-your-buck technique to cool your PC components, despite its seemingly steep price tag (compared to air-cooling). When compared to air-cooling, water-cooling provides better performance with a lot less noise, and it usually allows for higher overclocking. Sure, there are risks—we won't lie and say there aren't. But if you're careful, diligent, and able to RTFM, there's little chance of destroying your beloved rig or experiencing what we call in the Lab a "gusher."

Despite the relatively low risk involved, a lot of people are reticent to take the plunge due to their lack of knowledge, and that's where we come in. We'll walk you through the ins-and-outs of water-cooling, and explain what every component does. We'll also offer installation and maintenance tips, and take you on a virtual tour of a typical cooling loop. And with that, it's time to don your water wings (goggles are optional) and dive in.

PUMP

There are two kinds of pumps used in water-cooling: submersible pumps, which go inside a reservoir and are submerged underwater, and the non-submerged variety. Submersible pumps are typically found in external, all-in-one kits that sit on top of your case. The majority of pumps used in DIY water-cooling are the stand-alone, non-submersible variety. The key stat for your pump is its flow rate, the amount of coolant it can move in an hour.

When pump shopping, keep your ultimate goal in mind. If you're just cooling a CPU, you can go with a low-to-medium flow pump in the neighborhood of 150 gallons per hour (gph). If you want to cool a GPU, chipset, and a hard drive or two, you'll need a higher-flow pump. We recommend 300gph pumps when you're cooling more than just the CPU.

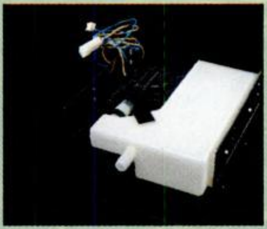


This pump model—which is packaged under different names—is widely regarded as one of the best available, and is found in many kits.

RESERVOIR

A reservoir is not necessary in a water-cooling kit, but it's a good idea to have one. First, it allows air bubbles to escape easily. Second, a reservoir greatly increases the total water volume in a cooling kit, thereby increasing cooling performance. Third, having a reservoir makes it easier to fill the kit with water, because you can just pull it out from your rig to top off your loop. Kits without a reservoir require a fill port or T-line, which makes filling and bleeding air from the system more difficult.

The best reservoirs are made from acrylic or molded plastic, and have a separator to ensure that the water is constantly moving through the reservoir.



The reservoir holds extra water to increase your cooling power, and makes it easier to remove air bubbles from the liquid coolant.

CLAMPS

Almost every water-cooling kit requires hose clamps around the tubing on the inlet and outlet barbs of your cooling blocks, pump, radiator, and reservoir, to prevent leaks. Even though the tubing usually fits onto the barb very securely, clamps are insurance against a catastrophic leak.

There are two types of clamps: the plastic, ratcheting type (shown here), and the metal clamps used in plumbing that are available at Home Depot. The plastic variety should be more than sufficient, if you use them properly. Make sure you use some sort of clamp on every tube end, and cinch the plastic clamp (using your hands only) until it's tight enough to keep the tubing on securely.

Even if the tube fits tightly onto the barb, always use clamps. We found this out the hard way!

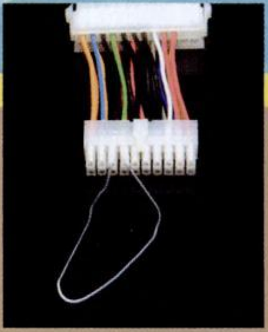
INSTALLATION TIPS

Installing a water-cooling kit can be very scary, especially if you don't have an experienced helper to be the wind beneath your water wings. Let us be that wind.

First, it's not a bad idea to do a dry run outside of your case to make sure none of the fittings are leaking (you'll need a PSU to do this, so you might want to do the dry run next to your PC). Place the block(s), radiator, pump, and reservoir in a circular pattern, and connect them with the provided tubing in the order dictated by the manual. Secure each fitting with a hose clamp, and then fill the reservoir until it's full. Next, lift and tilt the reservoir above the rest of the parts to fill the tubes with water.

When you have filled the reservoir with as much water as possible, prepare to send power to the pump. You do this by turning off and unplugging the PSU, and unplugging the large 20/24-pin ATX power connector from your mobo, and shorting pins number three and four on the row adjacent to the clip (the green and black pins shown), using a paper clip. Then connect a power cable to the pump, and plug in and turn on the PSU. Water should begin to circulate, which will empty the reservoir, so fill it as needed. Let the whole system run for a few hours. If there are no leaks, you're good to go. If there are leaks, investigate the affected area and fix the problem.

Once you are sure everything is working as it should, drain the kit and prepare to install it inside your case. Install the water blocks first, then the radiator, then the pump, and finally the reservoir. Each kit is a little different, so you should look in the manual for kit-specific instructions. Though it varies on a kit-by-kit basis, we recommend you run the pump outlet to the radiator inlet, the radiator outlet to the CPU block inlet, the CPU block outlet to any other block inlets. Then direct the water to your reservoir's inlet and close the loop by running a hose from the reservoir outlet to the pump's inlet. When the tubing is connected, fill the reservoir, then tilt your PC until you get water into the lowest points of the circuit. Connect the pump and hit the juice to push water through the circuit, and keep adding more coolant as necessary. Once your rig's full of water, remove the hot-wiring pin, plug the ATX connector back into your motherboard, and fire up your rig for real. When it's all working, you can give yourself a well-earned pat on the back.



It's a good idea to assemble your water-cooling kit outside your case and test it for leaks before installing it. To do this, attach the pump to your PSU, then short these pins to send power to the pump.

COOLANT

First things first: Do not, under any circumstances, use tap water! It contains hard minerals that will gunk up your radiator, pump, and reservoir. Instead, you should use distilled water, mixed with an additive to prevent corrosion and algae growth. You need this additive because the water block in a typical kit is made of copper, and the radiator is made of aluminum. These dissimilar metals create a pseudo battery upon contact with water, and will cause corrosion.

Swiftech's neon-green Hydrx coolant is a great additive, (it's also UV reactive) and costs just $3 online. Premixed, nonconductive coolants such as Fluid XP and MCT-5 from Danger Den are excellent as well, but they're significantly more expensive.

These additives will protect your water-cooling gear from corrosion, which can happen even if you use distilled water in your loop.

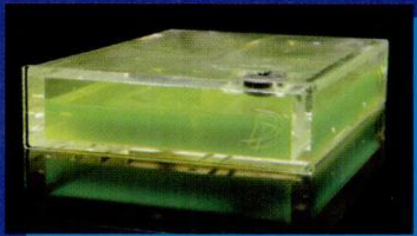
ROUTINE MAINTENANCE

Once your kit is up and running, you can forget about routine maintenance for the first year or so, as long as you use the correct ratio of distilled water to anti-corrosion additive. There's nothing to monitor on a day-to-day basis, but most manufacturers recommend you give your kit a thorough inspection every six to 12 months. That thorough inspection includes a basic checkup to ensure that the kit continues to run at its maximum level of performance.

The first thing to check is the water level in the reservoir. Because all water-cooling loops are closed circuits, evaporation shouldn't be a problem, but you will lose small amounts of your coolant over time. Checking the water level is as easy as eye-balling your reservoir. If it's not absolutely filled to the brim, top it off. In fact, if your reservoir is low you'll probably hear it before you see it, as the water will slosh around more and make annoying gurgling noises. External kits that sit on top of your case typically include a reservoir window, so you can check the fluid level at a glance.

Next, check the water blocks for signs of corrosion or blockage. This is very easy to do on a water block with an acrylic top, such as those from Danger Den, Koolance, and Asetek. On models with an opaque cover, your only option is to remove the water block and unscrew the cover, which can be time-consuming. However, as we said before, if you are using the correct ratio of distilled water to anti-corrosion additives (or the manufacturer-recommended bottle of coolant), there shouldn't be any corrosion or algae.

Finally, check the fans and radiator for dust and lint buildup. Blowing compressed air through the radiator and fan will exorcise its dust bunny demons quickly and easily.



Evaporation should be almost a non-issue, but it's still smart to keep an eye on your coolant level.

TUBING

The diameter of the inlet and outlet ports on the water blocks, pump, and reservoir will determine the size of the tubing you use. The most common way to identify tubing size is by its internal diameter, also known as ID. As a rule of thumb, wider-ID tubing delivers a higher flow rate. The higher the flow rate, the more cooling power a kit can bring to bear. The industry has settled on fat, 1/2-inch tubing for high performance water-cooling. Most other kits use 3/8-inch tubing, and some lesser kits even use 1/4-inch tubing. We recommend 1/2-inch tubing for maximum flow.

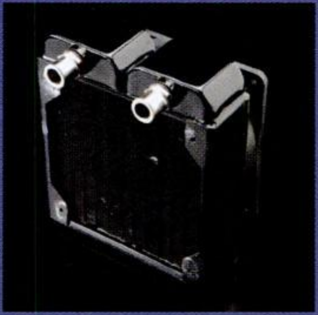
The type of tubing varies as well, but not radically. Most tubes are made from either Tygon, silicone, or just generic vinyl. Tygon is very expensive but bends well and doesn't crimp easily. Silicone is very flexible, but not widely available. And thus, we come to the most common type of tubing: vinyl. It's cheap, works well, and is readily available.

No, it's not transparent pasta. Tygon tubing is very thick, yet easy to bend.

RADIATOR

The radiator transfers heat from your water-cooling circuit to the environment outside your case. It's where the heat from your water-cooled components radiates out of the system. Aluminum is the most popular material for radiators because it's light, inexpensive, and can be crafted into very complex shapes—much more easily than copper. Most radiators are designed to work with a single 12cm fan, for maximum cooling with minimum noise. The more surface area on your radiator, the more heat it will be able to pull from your coolant, so some extremely high-end kits employ larger radiators, or even multiple radiators. In our tests, we've found that a single 12cm radiator is sufficient to cool a high-end CPU and GPU.

Which radiator is best? Every high-end kit we've tested has included the exact same radiator: the Black Ice Xtreme. It features flat aluminum water channels among a dense array of louvered fins. It doesn't require a lot of airflow to keep it cool, which makes for quiet computing.



The Black Ice Xtreme is the de facto radiator used in almost every kit available.

WATER BLOCKS

A water block is a copper heatsink that's mounted to your CPU or GPU to absorb the heat generated by that component. There are a zillion water-block designs on the market, and each manufacturer claims that its design is the best, based on its own internal testing. We've tested almost every big-name water block on the market, and though we've definitely seen differences among them, the performance delta is usually slight. Even the worst blocks provide decent performance, but some are better than others.

The differentiation point in water blocks is the path that water takes through the block. Some water blocks use simple channels carved in an "S" pattern, which is a rather rudimentary—yet effective—design that's cheap to manufacture. Other water-block manufacturers are now advocating a more sophisticated design known as the "pin matrix." Once water enters one of these blocks, it's forced through a grid of vertical pins. This design offers more surface area than "S" pattern designs, and more surface area means better cooling performance.

Aside from the radiator and tubing size, the type of water block you use has the biggest impact on a water-cooling kit's performance. The most important trait to look for when purchasing a block is that its inlet/outlet barbs match the tubing diameter of your other hardware. Aside from that, you'll want a water block with a low pressure drop, which ensures the water keeps moving through the block quickly. The best blocks we've tested are the Danger Den TDX and Swiftech's Apogee, which both use a pin matrix design.

The Swiftech block keeps the water moving at a high rate of speed by squirting it down onto the middle of the block (right above where the CPU core is located) through a process called jet impingement. The water jet creates major turbulence where the water contacts the block, which helps transfer heat away from the block.

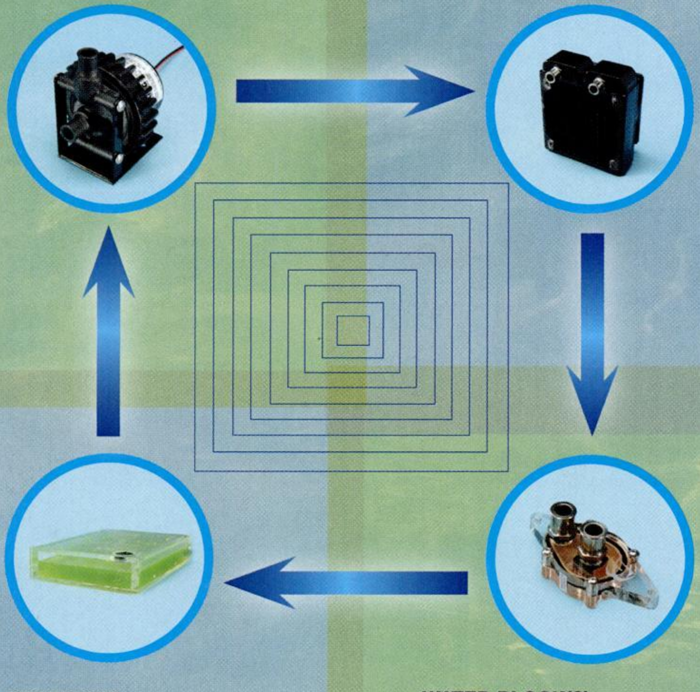
Water blocks come in a wide assortment of shapes, sizes, and designs.

Water-Cooling Walk-Through

Join us for a step-by-step look at what happens in each stage of a water-cooling circuit

PUMP
The pump sucks the water into one end and shoots it out the other end. Inside the pump is an impeller, which is a small, rotating cylinder with blades that direct the water-flow. Pumps are rated by their head pressure, as well as their flow-rate, which is typically expressed in gallons per hour (gph). A pump's "lift" is how high it can push water vertically.

RADIATOR/FAN
Warm water enters the radiator and is squeezed into small aluminum columns that have fins soldered to them. The water transfers its heat to the columns and fins as it passes through, eventually exiting through the radiator outlet port. Usually, a fan is mounted to the radiator, to blow cool air over the fins, which transfers the heat from the fins to the air outside the case.



RESERVOIR
The reservoir is a large container of water, and is the only place in the circuit where air bubbles can easily escape the system. Water velocity inevitably drops when it enters the reservoir, because the water is no longer contained in a thin tube, so reservoirs are designed to suck the water through and push it out quickly in order to maintain a decent flow-rate.

WATER BLOCK(S)
Cold water escapes from the radiator and comes rushing into the water block's inlet port. The water block transfers heat from the CPU or GPU core to the water, which it then sends on its merry way. There are dozens of different water-block designs, but the basic rule is that the more surface area of block exposed to water, the more heat it will transfer.

DIY vs. Prefab Kit

Just as PC enthusiasts often wonder whether to build their own PC or go with a hassle-free prefab rig, the same dilemma exists in the water-cooling universe. And though we always recommend you build your own PC rather than buy one, things aren't so clear-cut when it comes to water-cooling.

A prefab kit is a pre-assembled collection of cooling parts sold by a manufacturer such as Swiftech or Koolance. When you buy a prefab kit, you are paying a small premium for the peace of mind that comes from knowing the kit will have everything you need to get up and running, as well as a thorough manual that walks you through the entire installation process. The DIY route, however, leaves you totally on your own to decide which blocks, pump, tubing, and other parts to buy. It takes some know-how to match the tubing size to the fittings on the blocks, to know if the pump's specs are appropriate, and most importantly, to know how to put it all together. A DIY kit includes instructions for each part, but no guided tour on how to assemble it.

So, which is better? In the early days of water-cooling, the kits were crap and DIY was the only way to get a kick-ass setup. That's no longer the case. Water-cooling has entered the mainstream, and stiff competition has led to powerful prefab kits from Swiftech, Danger Den, Corsair, and others that rival the best DIY packages available. While building a DIY kit can be a lot of fun, there's no shame in the prefab game, especially if you're anything less than a water-wizard. MPC

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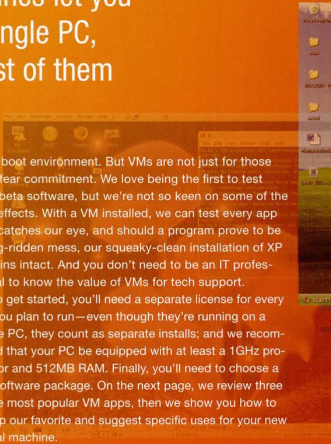
VIRTUALITY

We show you how virtual machines let you easily run multiple OSes on a single PC, and how you can make the most of them

BY PAUL LILLY

You consider yourself hardcore, right? After all, your processor smokes along at 500MHz faster than stock, you voided the warranty on that new videocard within seconds of hitting the control panel and cranking up its clock speeds, and you've dived head first into water cooling. But not so fast, budding enthusiast. You haven't fully left behind Noobville and entered the elite ranks of Geekdom until you've played with virtual machines.

By emulating a specific set of hardware, virtual machine (VM) software allows you to run one or more operating systems inside your existing OS, in essence creating separate PCs within your PC. So when HaX0rJ0e starts ranting and raving on your forum about the superiority of Linux, a virtual machine makes it possible to see what the fuss is about without having to nuke your OS or even bother repartitioning your hard drive to create a dual-boot environment. But VMs are not just for those who fear commitment. We love being the first to test new beta software, but we're not so keen on some of the aftereffects. With a VM installed, we can test every app that catches our eye, and should a program prove to be a bug-ridden mess, our squeaky-clean installation of XP remains intact. And you don't need to be an IT professional to know the value of VMs for tech support.



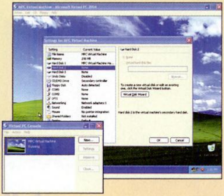
To get started, you'll need a separate license for every OS you plan to run—even though they're running on a single PC, they count as separate installs; and we recommend that your PC be equipped with at least a 1GHz processor and 512MB RAM. Finally, you'll need to choose a VM software package. On the next page, we review three of the most popular VM apps, then we show you how to set up our favorite and suggest specific uses for your new virtual machine.

Applicazioni Risorse Desktop
Think Linux
[Altervista Forum - Linux Cafe - Mozilla Firefox]
10:10 PM
Media Center
start
Online Spotlight
My Videos
My Pictures
My TV
My Music
Radio
More Programs

VIRTUALITY

Three Virtual Machines, One Real Winner

Microsoft Virtual PC 2004



Microsoft recently dropped its $130 asking price for *Virtual PC 2004* and now offers it for free, but it's not destined for abandonware; the programmers at Redmond are working on a 2007 version, which will incorporate full Vista support (and remain free, as well).

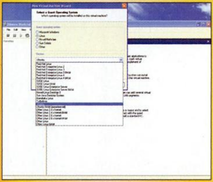
It might often be true that you get what you pay for, but *Virtual PC 2004* works surprisingly well despite being gratis. Setting up a virtual copy of Windows XP was cake, and you're given a fair amount of customization options. Up to three hard drives can be added, and we successfully configured a home network with file sharing. And once we installed the additions package (also free), we could move the mouse pointer seamlessly between the VM and our desktop, as well as resize the VM just like any other window. Neato!

Where *Virtual PC 2004* stumbles is in its Linux support. While it's possible to get several different Linux distros to work, be prepared to spend time troubleshooting. We had a rough time getting Ubuntu installed—a problem we traced back to the S3 Trio emulation, which doesn't support 24-bit color even though the real chipset does. The VM is also slow compared with the other two apps here, and forget about using USB devices outside of a keyboard and mouse—they're just not supported. Still, for Windows-only use, it's tough to beat the price.

MICROSOFT VIRTUAL PC 2004 **7**

Free, www.microsoft.com/virtualpc/

VMWare Workstation 5.5



At $200, *VMWare Workstation 5.5* is the highest-priced software package in our roundup, but it's also the most fully featured. We were delighted to see the love for Linux, with several distros supported during setup via a pull-down menu. And if your distro isn't listed, *VMWare* lets you select by kernel rather than the standard "Other Linux" option (also listed). Equally robust are the Windows options, ranging from 3.1 up to Vista x64 Edition.

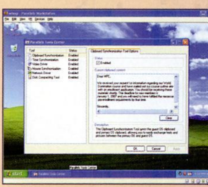
Installation was a breeze, and you're given the ability to clone your VM with the click of a button, which can then be shared and loaded with other copies of *VMWare* without having to install and configure Windows each time. For personal backups, you can take a snapshot of your system and revert back to it should something go awry. And unlike previous versions, you can take multiple snapshots and save them separately rather than overwriting. You can even add hardware devices to the emulation layer, such as additional hard drives, a floppy drive, or an optical drive.

VMWare also gave us the least trouble when it came to using USB devices. Flash memory keys and digital cameras were detected and functioned just as they do on our host OS. But even so, $200 is a steep asking price, and why limit users to 4GB of RAM across all VMs?

VMWARE WORKSTATION 5.5 **8**

$200, www.vmware.com

Parallels Workstation 2.2



Parallels strikes the perfect balance between the two other VM apps here—broad functionality at a price that's easy to swallow.

Picking up where *Virtual PC 2004* leaves off, *Parallels* offers a wider range of Linux options, though not quite as many as *VMWare's*. But as with *VMWare*, you can choose by kernel or simply by "Other Linux" if your distro isn't listed.

From a performance standpoint, *Parallels* responds a smidge quicker than *VPC04* when opening programs or dabbling in content creation. And like *VMWare*, you can clone setups for easy deployment. For even greater functionality, install the free tools add-on to move the mouse between host and guest OS, keep the time in sync between the VM and your host PC, and even carry over your clipboard's contents from one OS to the other!

Unlike *VPC04*, USB devices are supported in *Parallels*, but using them wasn't easy. Our flash key was detected, but unusable; and when we hooked up our digital camera, the virtual PC blue-screened. D'oh! Even still, *Parallels* delivers a good balance of price and performance, so we can live with quirky USB support. There's enough value here to warrant a purchase over Microsoft's freebie.

PARALLELS WORKSTATION 2.2 **8**

$50, www.parallels.com

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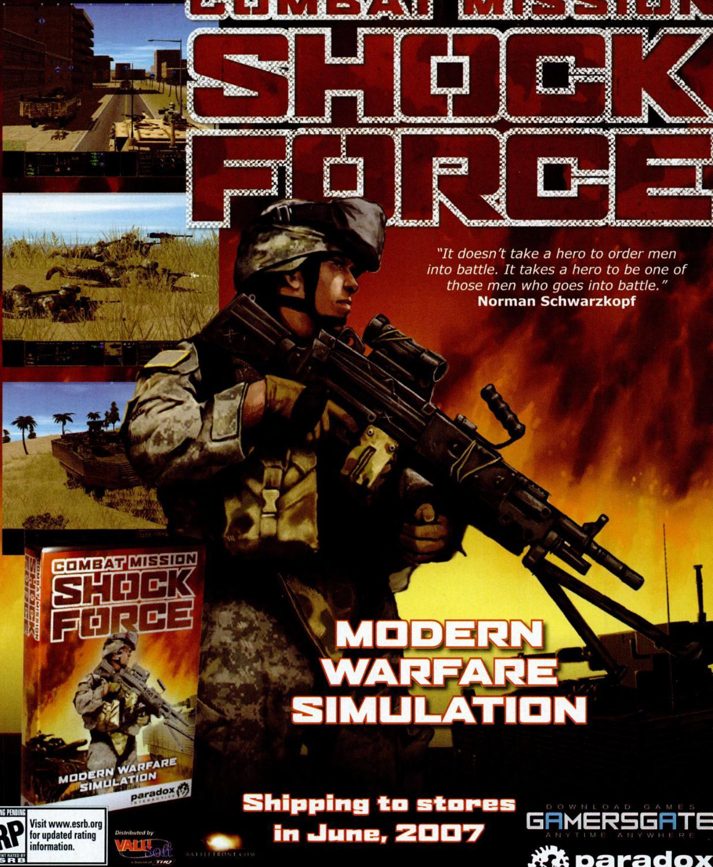
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> **Norman Schwarzkopf**

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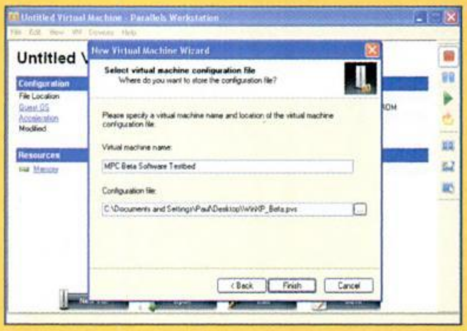
Set up a Parallels/Windows XP VM

Three steps to getting your virtual machine up and running

Step 1: Create Your Virtual Machine

Once you've downloaded and installed *Parallels* on your host PC, you're ready to create your first virtual machine. Clicking "New VM" brings up three options: Typical, Custom, or Blank. We like being in control, so we'll choose custom. On the next screen are two pull-down menus asking about the guest OS. We're installing Windows XP, so select Windows as the type and XP for the version.

Next you'll configure the RAM and hard drive. The more RAM you allocate for your virtual machine, the more responsive it will be, but there's no need to overdo it—*Parallels* does a good job of making do with modest resources. We recommend 512MB if you're equipped with 2GB, or 256MB if you have 1GB in your rig. For the hard drive, the default 8GB partition should be plenty to get you started, but if you know you'll need more space, alter the size to fit your needs, or you can just add more partitions later. Finally, choose a name and location for your virtual machine.



Select virtual machine configuration file
Where do you want to store the configuration file?

Please specify a virtual machine name and location of the virtual machine configuration file.

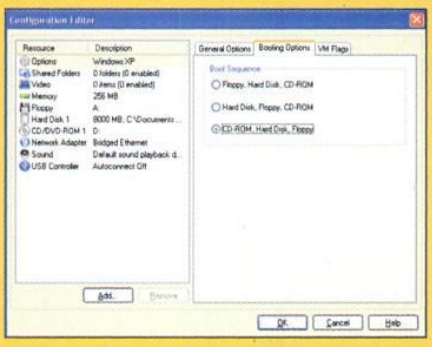
Virtual machine name:
MPC Beta Software Testbed

Configuration file:
C:\Documents and Settings\Paul\Desktop\WinXP_Beta.pvs

Give your virtual machines descriptive names, such as "MPC Beta Software Testbed," that represent what you'll be doing with them.

Step 2: Change the Boot Order

Just as with your real PC, you need to configure your virtual system to boot from the optical drive in order to install Windows. Click the Edit button on your newly created VM, which brings up a screen very similar to the Device Manager. We're interested in the middle tab labeled Booting Options. Change the boot sequence so the optical is first. Now you're ready to pop in your Windows XP CD, click the power-on button located on the right-hand side of the window, and install Windows as you normally would. Don't forget that you need to have a separate license for each copy of Windows you plan to install. Hey, we didn't write the rules!



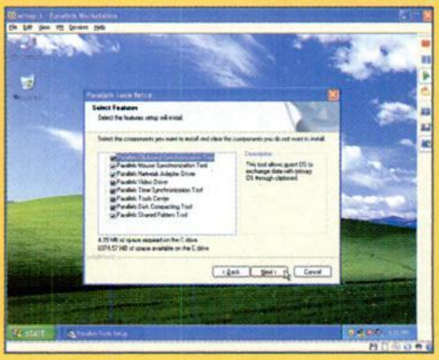
Resource	Description
Options	Windows XP
Shared Folders	0 folders (0 enabled)
Video	0 items (0 enabled)
Memory	256 MB
Floppy	A:
Hard Disk 1	8000 MB, C:\Documents...
CD/DVD-ROM 1	D:
Network Adapter	Bridged Ethernet
Sound	Default sound playback d...
USB Controller	Autoconnect Off

Boot Sequence
○ Floppy, Hard Disk, CD-ROM
○ Hard Disk, Floppy, CD-ROM
● CD-ROM, Hard Disk, Floppy

Before firing up your virtual machine for the first time, you'll need to tell it to boot from the optical drive in order to install Windows.

Step 2: Install Drivers

You're almost ready to rock 'n' roll. *Parallels* will install with basic drivers, but for advanced functionality, you'll need to install Parallels Tools. Installing the tools allows you to sync the clipboard between your host and guest OS, customize the network adapter for improved performance, tweak the video adapter to allow you to move the mouse cursor seamlessly in and out of the VM box, and a handful of other goodies. Hit Ctrl+Alt to release the mouse cursor and navigate to VM in the menu bar. Follow the prompts and when finished, you'll be ready to get down with your virtual machine and boogie!



Select Features
Select the features setup will install.

Parallels Mouse Synchronization Tool
Parallels Network Adapter Driver
Parallels Video Driver
Parallels Time Synchronization Tool
Parallels Tools Center
Parallels Disk Compacting Tool
Parallels Shared Folders Tool

Description
This tool allows guest OS to exchange data with primary OS through clipboard.

To get the most out of your VM box, be sure to install the optional tools package.

Advanced CPU Support

Anytime hardware emulation takes place, you can expect to take a performance hit compared with running on native hardware. Virtual machine apps are coded to minimize this effect, but there's only so much that can be done on a software level. If a business wants to upgrade its servers yet still maintain support for legacy applications through virtualization, the performance hit incurred could prevent this from being a viable option. Support for virtualization needs to be integrated on the hardware level, and that's exactly what Intel and AMD have been doing. The virtualization extensions in their current processor lineups have the potential to significantly improve performance when emulating an OS. The benefits will be known for sure as new versions of VM software that support CPU virtualization are released.

Today's virtual machines use a virtual machine manager (VMM) to communicate with the processor and keep the emulated components separate from the real hardware. Visualize a work environment in which the boss (CPU) speaks a different language than one of the employees (virtual machine), who brought along a translator (VMM) to help him communicate. It works, but if the boss were to learn some of the employee's language, the give and take process of communication would move along much more quickly. In a way, this is what AMD and Intel have done with the virtualization tech in their new processors.

VIRTUALITY

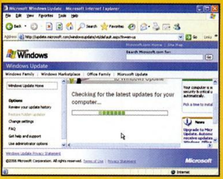
Use Your VM as a Safety Sandbox

Before going buck-wild testing potentially unsavory applications, put up a wall of protection

Virtual machines make ideal platforms for playing with beta software or potentially harmful applications; and for the most part, they stay contained within their own hard-drive image. But malicious code can still make its way onto the host operating system. The last thing you want to do is compromise your main rig, so grab the bull by the horns and take a proactive approach.

For all intents and purposes, your VM box is another system on your network and needs to be treated as such. Just as you do with every PC you own, update Windows on your virtual machine with the latest patches and hotfixes. Always keep a firewall up and running whenever you're connected to the Internet, and keep malware at bay with regular antivirus and anti-spyware scans. We list several of our favorites in the November 2006 issue cover story ("Fix Your PC!").

Once you've migrated your good computing habits over to the VM box, pat yourself on the back, and then customize the network options. Because you're going to use this VM as a safety sandbox, there's no need to enable file and printer sharing, as this makes your host PC vulnerable should your VM become corrupt. Navigate to the Control Panel from the Start menu and click Network and Internet Connections. Select Network Connections, right click the LAN icon, and select Properties. Uncheck file and printer sharing. Congratulations, you're now ready to ride recklessly into the sunset!



Checking for the latest updates for your computer...

Microsoft Windows Update - Microsoft Internet Explorer
Windows
Windows Update
Windows Family | Windows Marketplace | Office Family | Microsoft Update
Windows Update Home
Options
Review your update history
Change settings
FAQ
Get help and support
Use administrator options
Microsoft

What applies to your main PC also applies to your virtual machine. Run Windows Update and keep your installation patched!

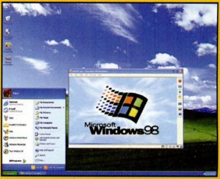
VM as Virtual Test Bed

Raised and groomed on Windows XP? A virtual machine presents a cost-effective way to expand your OS horizons!

Here's what it boils down to: You regularly visit computer forums where you converge with other like-minded geeks and discuss everything from the newest videocards to what AMD and Intel have up their sleeves for next quarter. But every once in awhile, in the middle of getting your geek on, the conversation gets interrupted by a select group of users intent on spreading the utopian open-source gospel known as Linux. Tired of just not *getting it*, you decide to take the plunge, when the realization hits: You don't have a spare PC handy, oh no! Thanks to virtual machines, you don't need one. Throw your distro of choice onto a VM and see what all the ruckus is about. And it's not just for the curious, web developers can run a standard Linux Apache server and write code on the same rig, negating the need for an expensive staging server!

The appeal of a virtual machine extends beyond Linux duties, too. Nostalgia buffs can throw an older version of Windows onto a VM and get reacquainted with those long-lost apps of yore. Or don your developer hat and test out your killer program across a variety of platforms for maximum compatibility.

And finally, as regards that friend or relative who bought a PC back when *Duke Nukem 3D* was the hottest FPS on the block and hasn't updated it since: You can still be the go-to guy for solving the latest computer crisis (oh joy!) with a virtual machine that lets you stay on top of your troubleshooting game, even for ancient versions of Windows. MPC



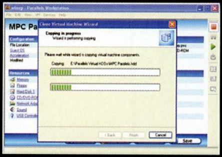
Want to enjoy Windows 98 and XP at the same time? Only a virtual machine makes this ménage à trois possible!

Avoid Virtual Vexation!

If there were such a thing as Homeland PC Security, we could always assume a state of code red and dispense with the other colors. Not only are we constantly at threat from cyber evil-doers who would like nothing more than to steal our identities or harm our computers, but defective hardware and poorly programmed software can take out a system in a flash. And whether disaster befalls your host PC or your virtual machine, you better have a backup in place.

There are two ways to back up your virtual machine. The first is to create a clone of your existing configuration. We recommend doing this after a fresh OS installation on your VM, and again after you've customized your install. Open *Parallels Workstation* and click VM in the menu bar. Select Clone VM and follow the prompts. This process will create a complete backup of your entire virtual machine, which you'll need to save in a secure location.

Alternately you can physically back up the configuration file and hard drive image. These can be found by navigating to C:\Documents and Settings\YOUR USERNAME\My Documents\Parallels Virtual Machines, or perform a desktop search for *.pvs and *.hdd. Make note of the directory or directories you found them in and then back up the appropriate files.



Copying in progress
Wizard is performing copying

Please wait while wizard is copying virtual machine components.

Copying E:\Parallels Virtual HDDs\MPC Parallels.hdd

A clone can't save you a bundle on your car insurance, but it can save you from a full-blown OS reinstallation.

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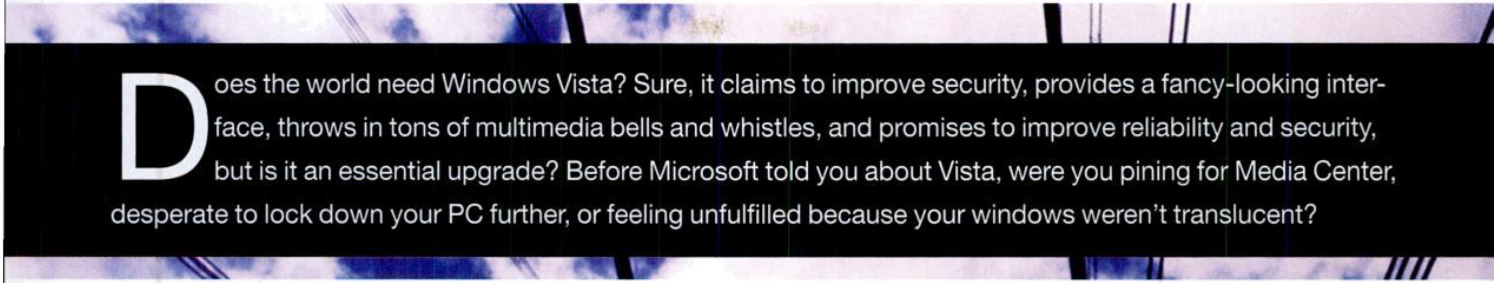
VISTA FOR FREE!

Save that $400 for beer and pizza—you can get the look, security, and much of the functionality of Vista without breaking the bank! We show you how!

BY NICK **PEERS**



Does the world need Windows Vista? Sure, it claims to improve security, provides a fancy-looking interface, throws in tons of multimedia bells and whistles, and promises to improve reliability and security, but is it an essential upgrade? Before Microsoft told you about Vista, were you pining for Media Center, desperate to lock down your PC further, or feeling unfulfilled because your windows weren't translucent?

Okay, maybe you're just a teensy bit tempted now that the cat's out of the bag. However, do you really want to spend upward of $400 for an upgrade? Will your PC even be able to handle Vista without your spending hundreds more on it? Do you want to take the plunge as an early adopter, knowing that there's a load of bugs just waiting to be discovered and ironed out, with you as the guinea pig?

Look, you've just got XP working the way you want it. Yes, you want some of those bells and whistles, but you don't need Vista to get them. That's right — we'll show you how to incorporate Vista's much-vaunted new features into your existing XP installation.

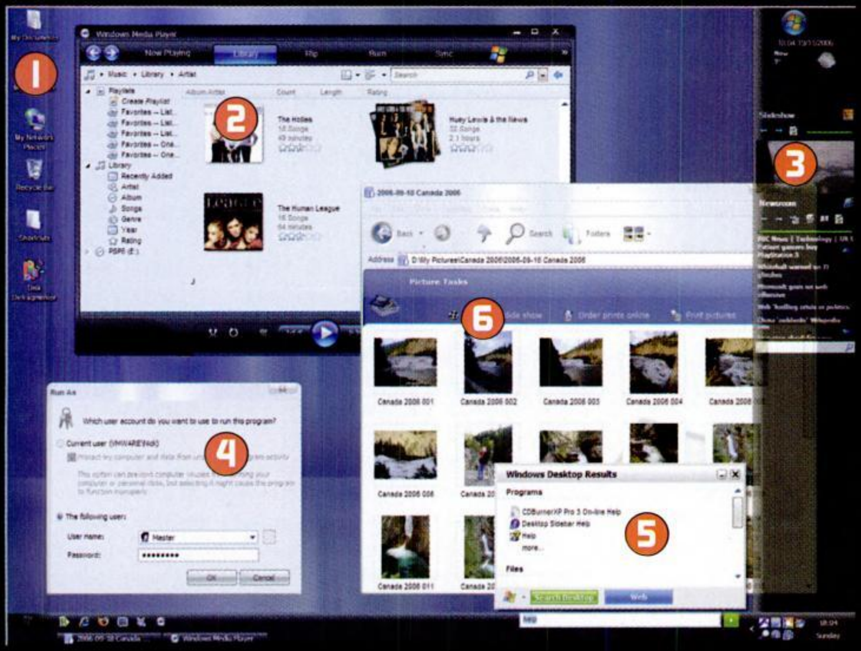
What you'll do

Our aim is to get as many of Vista's features into XP without breaking the bank. In most cases we've tracked down free tools to help you get XP closer to Vista, but some functionality will cost, which is why we've found the cheapest solutions we can.

We'll start by beefing up XP's security so it rivals Vista's. That doesn't just mean installing security software such as Windows Defender. It also involves trying to emulate Vista's User Accounts Control feature for restricting access to your PC and helping to keep malware locked out. We'll also reveal how to add Parental Controls and drive encryption technologies for free.

We'll then look at the user interface. As expected, we'll reveal how to make XP's desktop look similar to Vista's, but we'll also look at ways of getting some of those new features in Windows Explorer, such as the vastly improved search facility and desktop sidebar.

Vista has made waves with its multimedia-friendly options, so we'll look at how to get those added to XP for little or no cost. Whether you're installing an open-source alternative to Media Center or looking at different ways of burning CDs and DVDs, we've got the answers. We'll also throw in a load of tips and tweaks that help to further close the gap between Vista and XP. The result is a more secure, friendly OS that'll serve you should you be unwilling or unable to upgrade. Turn the page to start crafting your XP-Vista hybrid now...



From ugly duckling to beautiful swan

1 Get the Vista look
Discover how to transform your desktop, windows, and dialogs to more closely resemble Vista's eye-catching GUI.

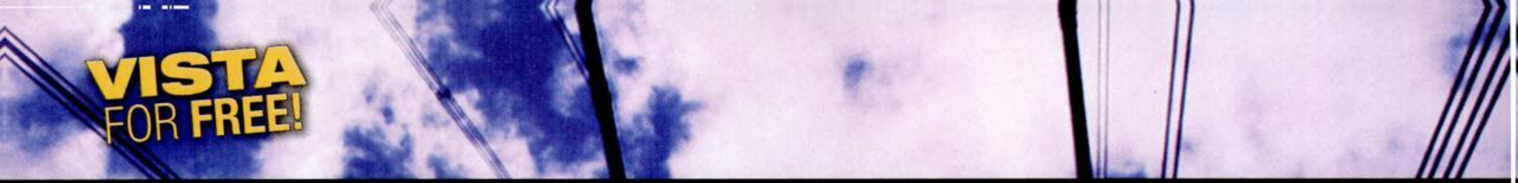
2 Multimedia enhancements
Get better access to your photos, movies, TV, and music with our guide to sourcing XP-compatible equivalents of Vista's new tools.

3 Windows sidebar
Get news headlines, photos, system information, and more delivered directly to your desktop.

4 Make XP more secure
Discover how to implement an equivalent form of Vista's User Account Control to help curtail the effects of malware.

5 Windows Explorer
Gain system-wide improvements such as Windows Desktop Search and Taskbar previews.

6 And much, much more
Don't stop there —we reveal even more tweaks that help you gain Vista's features without having to upgrade your OS.



Make XP as Secure as Vista

Vista improves PC security right of the box, but don't think XP can't match it! Here's how…

Your PC's security is crucial, which is why we're covering this topic before looking at more glamorous areas, such as the new Aero interface.

Windows Vista tightens PC security further with a revamped browser, an improved firewall, and better use of user profiles. Built-in parental controls enable you to monitor what games your children play and what Web sites they visit, while owners of the Ultimate Edition will even be able to encrypt their entire hard drive.

These sound like good reasons to upgrade, but the truth of the matter is that you can have all of this functionality in XP. Oh, and it won't cost you a penny.

More visible protection

Vista has revamped the built-in firewall so it now monitors outgoing as well as incoming connections. It's still pretty basic, though, so whether you upgrade to Vista or not, we recommend that you replace the Windows Firewall with a better, third-party program.

One of the best free firewalls on the market is Comodo Personal Firewall, which offers a better layer of protection than its contemporaries.

While most free firewalls offer program control—a prompt appears when a program attempts to connect to the Internet or network for the first time—they don't go any further. Once a program has been given access, other programs can piggyback that connection without being questioned. Most requests are legitimate: for example, when you click a link in Word that opens in your Web browser. However, malware has been known to hijack legitimate programs, sneak past the firewall, and dial home.

Comodo is unique among free firewalls in that it spots every one of these piggyback attempts and flags them, ensuring that no program can sneak on to the Internet without your say-so. You'll find it on the disc bundled with this magazine, so give it a try.

Vista also includes Windows Defender as a standard feature. If you haven't followed our advice yet, just download the free XP version from **www.microsoft.com/athome/security/spyware/software/**. Finally, even Firefox users should download and install Internet Explorer 7 from **www.microsoft.com/windows/ie/** to tighten its security further. IE7 features anti-phishing protection and is far less vulnerable than its predecessor.

You now have the same level of firewall and anti-spyware protection as Vista out of the box. (And that wasn't hard at all, was it?) But don't stop there. Install a free anti-virus app (such as AVG Free Edition) and a solid anti-spyware program (such as Spybot Seek & Destroy) to bulk up your security even further.

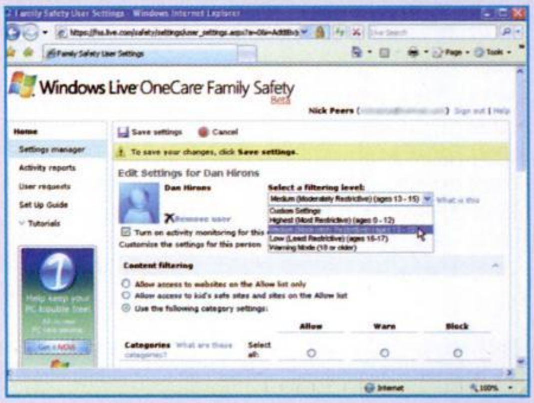
Reduced user permissions

One of XP's biggest security holes is in the implementation of user profiles. Administrators are given far too much access to the system, so once a piece of malware gets on your PC it can wreak havoc. Vista has plugged this hole with User Account Control, which reduces the basic level of access for administrators to that of standard users (Vista's equivalent of XP's limited user).

In normal day-to-day use, administrators are running with the same levels of access as standard users. When you need more access—for example, to install a program or access a system tool such as Disk

Protect Your Children!

Vista comes with Parental Controls built in. Here's how to get equivalent protection in XP



To save your changes, click **Save settings**.

Edit Settings for Dan Hirons

Dan Hirons

Select a filtering level:

Medium (Moderately Restrictive) (ages 13 - 15)

Custom Settings
Highest (Most Restrictive) (ages 0 - 12)
Low (Least Restrictive) (ages 16-17)
Warning Mode (18 or older)

☑ Turn on activity monitoring for this

Customize the settings for this person

Content filtering

○ Allow access to websites on the Allow list only
○ Allow access to kid's safe sites and sites on the Allow list
● Use the following category settings:

Control your children's Web access for free with Windows Live Family Settings

Windows Vista's Parental Controls enable you to control when your children use the PC, which programs and games they can run, plus which Web sites they can visit. If you want similar protection in XP, you'll have to pay for it. The benefit of CyberPatrol ($40, **www.cyberpatrol.co.uk**) is that it goes beyond simple Web protection, enabling you to check on other aspects of the Internet such as instant messengers.

If all you want to do is monitor your kids' Web surfing, then check out the Windows Live Family Safety service, currently in beta. Start by browsing to **http://fss.live.com** and click New User. Everyone you wish to cover requires their own Windows Live ID. Hotmail, MSN, and Windows Passport users are already covered, or you can create new ones here.

Next, sign in and start associating your various IDs with administrator (adult) and child accounts. Then, click Next > Download Software and save fssclient.msi to your desktop. Once it's installed, click Next. Pick Settings Manager to configure each member's access. Select an age group, opt to monitor their activity if you wish, and then review the Content Filtering settings. Here you can fine-tune access by blocking or allowing sites and choosing which criteria by which to filter Web sites. Once your settings are saved, sign out.

From now on, no one will have access to the Internet without first signing in with their Windows Live ID. Pick your username from the dropdown menu, enter your password, and off you go.

Defragmenter—Vista pops up a warning dialog that must be clicked for that program or process to be temporarily granted administrative privileges.

It's a great idea—one that Apple implemented first in MacOS X—and it's not out of reach for XP users. The trick is this: it's possible to run any program in Windows XP under different user privileges by right-clicking its shortcut or executable and choosing Run as. This function is designed for administrators to install software on a limited user's account without having to log on to their own account first, but it can also be used to run any system tool.

> Running as a limited user in XP makes it difficult for malware to infiltrate your PC, because it lacks the requisite access privileges

It's not foolproof. Even with this shortcut, some tasks can't be performed while you're logged on as a limited user, but for those tasks you can always temporarily log on as the administrator before logging back off again. You may also encounter some problems running certain software as a limited user. Some older programs and certain anti-virus tools, including older versions of Norton AntiVirus, require administrative privileges to run properly (a security risk in itself).

The solution is either to configure the shortcut as described below to enable you to run it with administrative privileges, or to find an equivalent program that doesn't require these excessive access rights to function.

Encrypt Your Hard Drive

Protect the files on your hard drive with Vista-like tools

XP—particularly XP Pro—makes it easy to encrypt individual files and folders, but how about your entire hard drive? Vista introduces Windows BitLocker Drive Encryption to users of its Enterprise and Ultimate Editions. This feature works by encrypting the drive rather than its contents. If the PC is stolen, the data is unobtainable without the correct credentials. Even if the drive is hooked up to another PC, the data remains unobtainable.

If this appeals to you, check out CompuSec, a free tool that not only makes it possible to encrypt your hard drive, but also works with CDs, flash drives, and other removable media. (You'll find it on this issue's disc.) For a guide to installing and using CompuSec, visit www.supportpcs.co.uk/compusec.

Note that CompuSec doesn't work with boot-loaders, so it won't work with multi-boot systems. In addition, you won't be able to partition your hard drive after installing this tool.

Also, because your data is sensitive, encrypting it could cause problems further down the line. Don't follow this procedure unless you really have to, and back up your important data somewhere safe first!

How does it work?

To get a Vista-ish level of system access in XP, create a new password-protected administrator account through the User Accounts Control Panel. This is the account you'll need to access each time you wish to do more than just basic, everyday tasks in Windows. Give it a generic name (how about Master?) and make sure it's password-protected because you won't be able to use it otherwise.

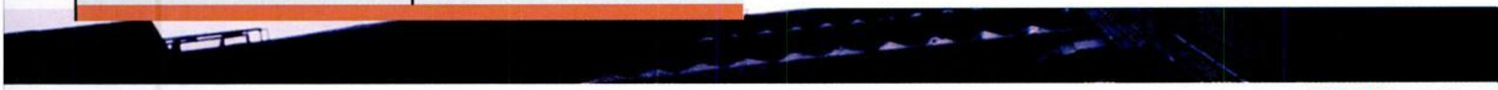
Now log off your own user account and log on as the Master. Open the User Accounts Control Panel again, but this time select every other account on your system and reduce their level of access to Limited User. When you next log on as your own user account, you'll be able to run most of your existing programs with no problems, but you'll need to take appropriate action whenever you're told that only an administrator can perform the task in question. The "Work with a Limited User Profile" sidebar (next page) reveals what to do.

Step three in the sidebar reveals just how clumsy this solution is compared with Vista's. Not only do you need to browse the Windows folder for system tools, but you also have to do the same with individual Control Panel applets because there's no way to run them with different user credentials using the shortcuts under Start > Control Panel. Again, right-clicking an applet inside the Windows\System32 folder and choosing Create Shortcut will create a shortcut that you can then amend to run under different credentials.

If this all sounds like hard work, check out the "Quick Tips" boxout (left) for a free download that contains shortcuts to the most common Control Panels and system utilities. You can place these anywhere you like on your system for easy access to the tools in question. Just double-click one to bring up the same dialog as displayed in step two of the sidebar.

Quick Tips

- **If you're the sole user of your PC, type *control userpasswords2* into the Start > Run box to set up XP to bypass the log-in screen after setting up your new Master account.**
- **Type www.supportpcs.co.uk/resources/shortcuts.zip into your browser to download a set of shortcuts to run from a limited user account.**
- **If the "Run as" scenario sounds like too much hassle, use [Win] + [L] to switch users each time you need to run an administrative task, then log on as your administrator.**
- **Another alternative is to try RunAsAdmin (http://sourceforge.net/projects/runasadmin/). This enables you to run programs as an administrator without having to enter your credentials. However, it's less secure than our method.**
- **Limited users can't use the "Run as" command in conjunction with program installers with the MSI file extension. You'll need to install these through your administrative account.**



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SO I GAVE IT A SMACKDOWN.

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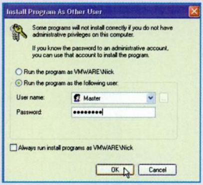
AVG

INTERNET SECURITY

Work with a Limited User Profile



Install Program As Other User

Some programs will not install correctly if you do not have administrative privileges on this computer.

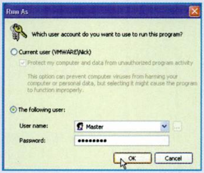
If you know the password to an administrative account, you can use that account to install the program.

○ Run the program as VMWARE\Nick
● Run the program as the following user:

User name: Master
Password: ••••••••

☐ Always run install programs as VMWARE\Nick

1. When you want to install a new program on your PC, insert your CD or DVD. If it's set to autorun, you may see this screen appear. Select "Run the program as the following user," pick your administrative account, enter its password, and click OK.



Run As

Which user account do you want to use to run this program?

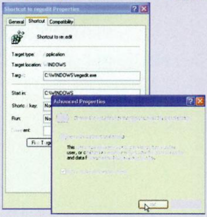
○ Current user (VMWARE\Nick)
☑ Protect my computer and data from unauthorized program activity

This option can prevent computer viruses from harming your computer or personal data, but selecting it might cause the program to function improperly.

● The following user:

User name: Master
Password: ••••••••

2. If the CD or DVD doesn't run automatically or the installation file is on your hard drive, right-click it and choose "Run as..." A similar box to that in step one will appear. Select "The following user," choose your administrative account, and type the password. Click OK.



Shortcut to regedit Properties

Shortcut to regedit

Target type: Application
Target location: WINDOWS
Target: C:\WINDOWS\regedit.exe
Start in: C:\WINDOWS
Shortcut key: No
Run: No
Comment:

Advanced Properties

3. Create shortcuts to system tools: locate the tool and create a desktop shortcut. Right-click the shortcut and choose Properties. Click Advanced, tick "Run with different credentials," and click OK twice. Opening the shortcut reveals the dialog in step two.

Revamp XP's Graphical User Interface

Jealous of Vista's undeniable good looks? Gain a similar look in XP, and get more practical benefits, too

Vista's eye-catching interface hides plenty of useful new features that shouldn't be overlooked when applying a next-gen facelift to tired ol' XP. Therefore, we're looking at more than simply skinning XP so it appears to be a clone of Windows Vista; we're covering ways of improving the desktop and Windows Explorer itself to provide more of Vista's functions in XP.

A brand-new look

Vista's interface is reasonably easy to ape, but if you want the translucent Aero effect, it's going to cost you—$20 to be precise—for the registered version of WindowBlinds. There's a 60-day trial version on this issue's disc, and you should visit **www.stardock.com/products/windowblinds/** to download the Vista Plus Pack. Once done, install WindowBlinds, click Add Skin, and select VistaPlus. After installation it'll appear as "Unknown" at the end of the list. Select this and click "Apply this skin now" to get a basic look at the skin. Certain features, including the transparency, will be disabled.

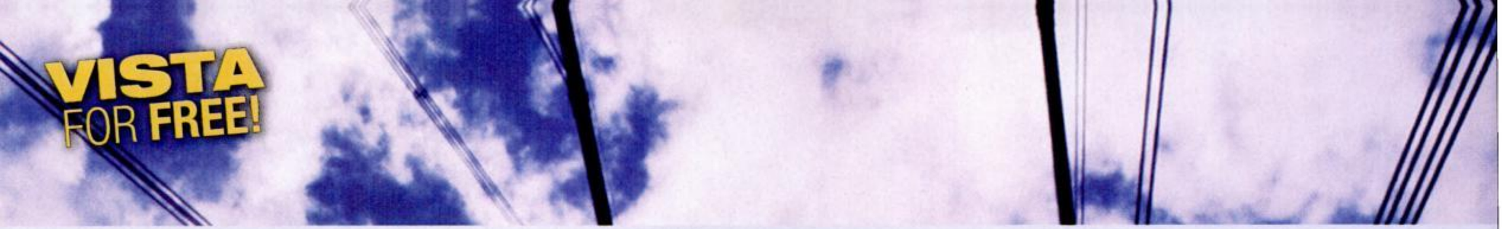
If you can live without this effect and you don't want to spend a penny making XP look like Vista, then install the Brico Pack Vista Inspirat from the disc. Note that it makes changes to key system files, which may cause problems with your installation, so back up before you begin.

The Brico Pack should work fine once set up. The icons, windows, Taskbar, and Start menu resemble Vista's new look, and you can always switch the background for something else if you prefer. If you decide to get rid of it, remove it via the Add or Remove Programs Control Panel. Some users have reported problems after doing so, and you can follow these up at the CrystalXP.net forums **(http://forum.crystalxp.net)**.

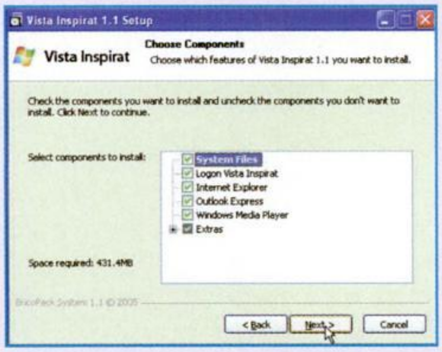
A small number of users reported being unable to boot into XP after installing it. In this event, you'll need your Windows XP CD (see **www.supportpcs.co.uk/installcd** for a tutorial on creating one if your computer came with recovery discs).

Boot from this disc into the Recovery Console: press [R] at the first screen, select your Windows installation by pressing [1], and then press [Return] when prompted for the administrator's password. This is the main administrator account and not the one that you set up on the previous page.

When the C:\Windows prompt appears, type BATCH BricoPackUninst.txt and press [Return]. Once the uninstall is complete, type EXIT and press [Return], and Windows should boot once more.



Get Vista's Looks for Free!



Vista Inspirat 1.1 Setup

Vista Inspirat

Choose Components

Choose which features of Vista Inspirat 1.1 you want to install.

Check the components you want to install and uncheck the components you don't want to install. Click Next to continue.

Select components to install:

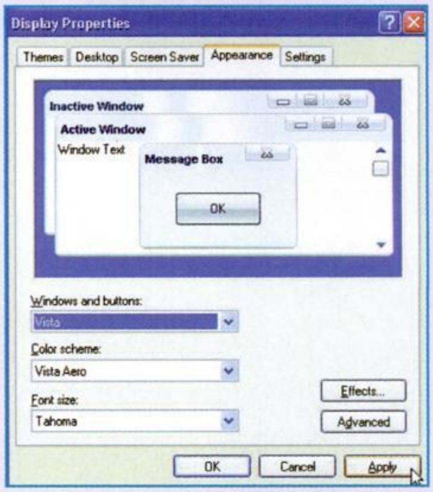
☑ System Files
☑ Logon Vista Inspirat
☑ Internet Explorer
☑ Outlook Express
☑ Windows Media Player
☑ Extras

Space required: 431.4MB

BricoPack System 1.1 © 2005

< Back
Next >
Cancel

1. Log on with your administrator account if necessary. Double-click Pack_Vista_Inspirat_1.1 to install it. Follow the instructions. We recommend leaving the default selections ticked. After installation, reboot when prompted.



Display Properties

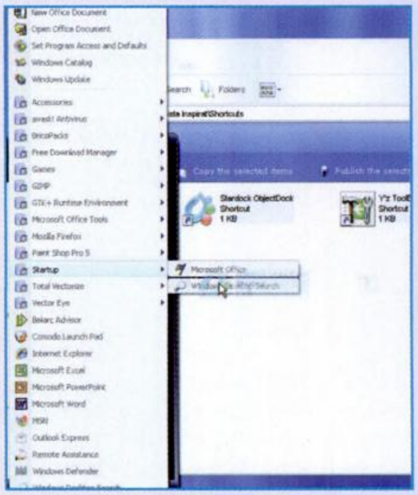
Themes
Desktop
Screen Saver
Appearance
Settings
Inactive Window
Active Window
Window Text
Message Box
OK
Effects...
Advanced
OK
Cancel
Apply

Windows and buttons: Vista

Color scheme: Vista Aero

Font size: Tahoma

2. If you've converted your own user account to a limited one, you'll notice that the tweaks haven't been applied in their entirety. Right-click the desktop and choose the Properties > Appearance tab. Select Vista under Windows and buttons. Click Apply.



New Office Document
Open Office Document
Set Program Access and Defaults
Windows Catalog
Windows Update
Accessories
avast! Antivirus
BricoPacks
Free Download Manager
Games
GIMP
GTK+ Runtime Environment
Microsoft Office Tools
Mozilla Firefox
Paint Shop Pro 5
Startup
Total Vectorize
Vector Eye
Belarc Advisor
Comodo Launch Pad
Internet Explorer
Microsoft Excel
Microsoft PowerPoint
Microsoft Word
MSN
Outlook Express
Remote Assistance
Windows Defender
Microsoft Office
Search
Folders
Copy the selected items
Publish the selected
Stardock ObjectDock Shortcut 1 KB
Y'z Toolbar Shortcut 1 KB

3. Switch to the Desktop tab to pick the BricoPack wallpaper and click OK. Browse to C:\WINDOWS\BricoPacks\Vista Inspirat\Shortcuts. Drag the StarDock ObjectDock and Y'z Toolbar icons onto the Start button and drop them into the All Programs > Startup folder. Restart to finish.

Functionality and form

The Brico Pack installs the Stardock ObjectDock at the top of your screen. We suggest accessing its settings menu (second button from the left) to configure it. From here, you can make the icons smaller, auto-hide the dock when it's not in use, and prevent it from running with Windows at all.

Vista doesn't employ the use of a dock. Instead, it uses the Windows Sidebar, which uses standalone components called gadgets to provide extra functionality such as a RSS feed, local weather report, slideshow, and more. If you prefer, you can emulate this instead. There are two major choices here: Desktop Sidebar (on the disc) and Yahoo! Widgets, which you can download from **http://widgets.yahoo.com/**.

For the purposes of this tutorial we're going to concentrate on Desktop Sidebar. To see how to configure it to give you similar functionality to Vista's sidebar, check out the "Configure Desktop Sidebar" boxout (next page).

More interface tweaks

Windows XP introduced ClearType, which makes text much smoother and easier to read. It's switched on by default in Vista, but isn't in XP. Rectify this by right-clicking the desktop and choosing the Properties > Appearance tab. Click Effects, tick the "Use the following method to smooth edges of screen fonts" box, and select ClearType from the drop-down menu before clicking OK twice.

If you're a fan of the XP PowerToys, you may already be aware of the Alt-Tab Replacement PowerToy, which throws up mini-screen previews of each open window when you cycle between them using the [Alt] + [Tab] keyboard combination. Windows Vista takes this one step further, so that when you roll the mouse over in individual tabs on the Taskbar, a tiny preview of that window pops up.

To get this functionality in XP, just install Alt-Tab Thingy from the disc. Once installed, any open and hidden (as opposed to minimized) windows can be previewed by rolling the mouse over their corresponding Taskbar tab. Tweak Alt-Tab Thingy's settings from its Notification area icon. You can resize the preview screen when pressing [Alt] + [Tab], for example.

The Brico Pack alters the logon and logoff screens to appear more in tune with the Vista look and feel, but you can change these to something different using LogonStudio, which you'll find on the disc. One thing that isn't altered is the Windows loading screen, so if you fancy something a bit different, install BootSkin from the disc instead.

Make sure you're logged on to your administrator account before doing so, and tick Launch BootSkin before clicking Finish to load it automatically. Choose Help > BootSkin Web site to find more skins—you'll find a number of Vista-inspired examples. When downloading, opt to open the file, and it'll be added to the list in BootSkin.

Edit Photo
Edit
Edit
Edit Photo
Edit
Edit
GAME X STREAM
POWER SUPPLY
PRO X STREAM
POWER SUPPLY
OCZ POWER SUPPLIES

Username	PCGAMER4LIFE
Name	Mike
Age	20
Sex	Male
Here Because	Seeking PSU

Status	Single; seeking gaming PSU
Country	USA
Occupation	College Student
School / College	UCLA
Things I like	Computer systems with high-end components Playing FPS computer games Comic books Listening to music

Username	ANDR3W_OV3RCLOCK3R
Name	Andrew
Age	23
Sex	Male
Here Because	Seeking PSU

Status	Single; seeking high-powered PSU
Country	UK
Occupation	IT Manager
School / College	MIT
Things I like	Computer systems with high-end components Perform benchmarks on my overclocked PC Reading PC Gamer magazine Hiking & camping

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OCZ...Bringing Individuals and Power Together. There is an OCZ power supply for everyone. Today's systems feature vast performance capabilities that require rock-solid, reliable power whether you are running servers, quad-GPUs, or overclocked platforms. OCZ's diverse lineup of premium power supplies has something for everyone with configurations ranging from 600W to 1000W. Check out ocztechnology.com and get on your way to finding the perfect power match for all your computing needs.

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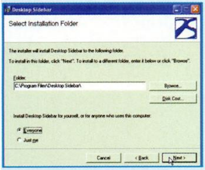
tigerdirect.com
mwave.com
pcclub.com
ncix.com
microcenter.com
directron.com
buy.com
pcmall.com
ATACOM
clubIT

Configure Desktop Sidebar



Select Installation Folder

The installer will install Desktop Sidebar to the following folder.

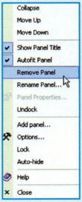
To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse".

Folder:
C:\Program Files\Desktop Sidebar\

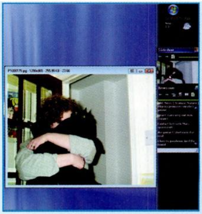
Install Desktop Sidebar for yourself, or for anyone who uses this computer:

● Everyone
○ Just me

1. Install Desktop Sidebar from the disc. You can install it for just yourself or everyone that may use your PC. Once complete, launch it from the Start > All Programs > Desktop Sidebar menu and grant it Internet access when prompted by your firewall.



2. A number of panels (Desktop Sidebar's equivalent of gadgets) are installed by default. Remove those you don't need by right-clicking the panel header and choosing Remove Panel. You can tweak individual panel preferences from this context menu, too.



3. The Desktop Sidebar's default skin is more suited to XP's look, so right-click the sidebar and choose the Options > Appearance tab. Click "Download more skins" to find Vista-inspired skins. Double-click to install them from inside your administrator account.

Boost XP's Multimedia Muscle!

Windows Vista handles movies, images, and music better than ever. Here's how to achieve similar functionality in XP.

Music, pictures, and movies are an integral part of our computing lives these days, and Vista—specifically the Home Premium Edition—wants to be in the middle of all of it. New features such as Windows DVD Maker (burn DVDs with simple menus), the Photo Gallery, and a brand-spanking-new version of Windows Media Player showcase Vista's media-friendly face, as does the fact that the Media Center is now an integral part of Home Premium, regardless of whether you have a PC with a TV tuner or Media Center badge.

So where does that leave XP? Not too far behind, as it happens. We'll show you how to add all this functionality to your existing OS without having to bite the bullet, dip into your wallet, and upgrade your system.

Organize, view, and edit your photos

XP attempts to incorporate its image tools into the interface itself: witness the Picture Tasks pane when you open the My Pictures folder. Windows Vista takes a different approach with its Photo Gallery tool, which is a standalone application designed to "blend in with the scenery."

Ditch XP's Search Engine

...for a better version that gives Vista's a run for its money!

One of Vista's "big features" is the fact that indexed searches are now the norm. These searches are lightning-fast because content on your hard drive is indexed in a single file, which is searched rather than the contents of your entire drive, thus speeding up your searches.

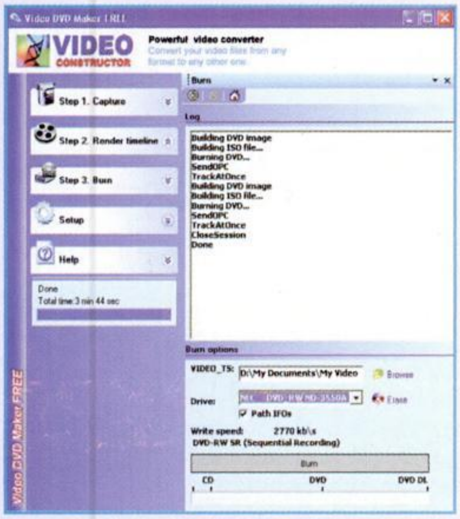
The technology is available to Windows XP users in the form of Windows Desktop Search, which you can download and install from **www.microsoft.com/windows/desktopsearch**. Take the time to go through the configuration wizard; if your data is scattered all over your hard drive, select "Email and all hard disks" on the Search Indexing Options page.

Although the search box isn't found in Explorer windows or on the Start menu as it is in Vista, it's actually even more accessible because it's always visible from the Taskbar. If you're running as a limited user, you may have problems setting it up. Just log in temporarily with your administrator account to set it up properly.

Once set up, Windows Desktop Search will index your hard drive in the background as you work. You can expect this to take a few hours or even days, depending on the size of your hard drive and your PC's specs. Although a number of file types are included as standard, including multimedia files and Office documents, these are largely Microsoft-friendly. To extend the range to other types such as Adobe PDFs and archives (including Zip and CAB), visit **www.ifilter.org** and follow the links.

Burn CDs and DVDS

Vista supports data and movie DVDs, and has its own packet-writing engine. How can XP respond?



```
Building DVD image
Building ISO file...
Burning DVD...
SendOPC
TrackAtOnce
Building DVD image
Building ISO file...
Burning DVD...
SendOPC
TrackAtOnce
CloseSession
Done
```

Done
Total time: 3 min 44 sec

VIDEO_TS: D:\My Documents\My Video

☑ Path IFOs

Write speed: 2770 kb\s

DVD-RW SR (Sequential Recording)

VideoDVD Maker lets you burn basic DVD movies for free.

Let's be honest: Windows XP's built-in burning capabilities are pretty basic, and this is something that's rectified in Windows Vista. That doesn't mean you should upgrade simply for the improved DVD-burning capabilities, though.

Many CD and DVD burners come with bundled versions of DVD-burning tools that rival Vista's capabilities, but if you don't have any software to start with, there are still some free and inexpensive tools that'll give you all you need.

First up is CD Burner XP Pro. You'll find it on this issue's disc, and it is the only tool you need to burn straight data CDs and DVDs. When it comes to music CDs, Windows Media Player 11 is your best bet, especially considering how well it dovetails into your existing music collection.

What about video DVDs? Windows Vista comes with Windows DVD Maker, which enables you to compile your footage and create a simple menu before burning the lot to DVD. There's no free solution that does all this, but Video DVD Maker comes close. The free version makes it possible to compile video footage and burn the result to a DVD. Meanwhile, the Pro version goes beyond Windows DVD Maker and offers chapters, slideshow, and a more fully functional menu designer—all for $30. You'll find both versions on the disc.

The final bugbear is Vista's built-in packet-writing, which means you can now format a rewritable CD or DVD and use it like a USB flash drive. There's no free solution, but it's built into Nero (InCD) and Roxio (Direct-to-Disc). You can purchase a standalone solution for $10 (NTI FileCD) from **www.ntius.com/filecd.asp.**

Photo Gallery is a superb tool. It links in neatly with Vista's search tool to provide a series of links down the left-hand side of the screen that enable you to filter your images based on the tags you've assigned to them. Double-click an image and you're presented with more options: fix the photo, open it in another application, email it to a friend, burn it to CD, or print it out.

The good news is that you can obtain all this functionality for free in XP courtesy of Google's Picasa 2 tool, which you download from **http://picasa.google.com/**. The sidebar "The 411 on Picasa 2" highlights three particular features that you'll find in Vista's Photo Gallery tool, but the similarities don't end there.

Photo Gallery offers you myriad ways to share your photos: email, print, burn to data disc or create a video slideshow, or convert into a movie. Picasa can't burn a video DVD (although it can burn a data CD or DVD), but it has other options not found in Vista. It links with the Picasa Web service, enabling you to share your collection as a Web album and create collages of selected photos to save as a single image, screensaver, or your desktop background (the default Picture Pile setting is our favourite here). If you have a Blogger account, then you can even upload the photo into a blog post, ready for you to supply a suitable caption and then click Publish.

Another free tool worth considering is PhotoMeister 2, which you'll find on this issue's disc. It's not as powerful as Picasa, but it does have some image-optimization tools and a number of unique options for showcasing your photos. You can create a Photo Book, for example, complete with layout and explanatory text, which can be printed or output as a PDF. You can also create a custom screensaver or interactive slideshow from your selected images. You can even output your photos to HTML or Flash for hosting on your own Web site.

Create video slideshows and movies

That still leaves the question of how you turn your photos into a video slideshow you can burn to a DVD that'll play on anyone's DVD player. The workaround is already present in XP: Windows Movie Maker. Run the program and choose to import photos. Once they're in place, put them on the timeline in the order you wish to show them, and pick your transitional effect. Add a music soundtrack and then opt to save the movie file. Choose to save the file to your hard drive and pick the best possible quality, ready for burning to DVD with a free tool on this issue's disc (see the "Burn CDs and DVDs" sidebar for details).

Speaking of Windows Movie Maker, it may have jumped from version 2 in XP to version 6 in Vista, but don't fret—you're not missing out on much. Version 6 adds support for outputting to HD, as well as Microsoft's recorded TV format. Otherwise, it's pretty much the same program. Vista does ship with Windows DVD Maker for burning DVD movies from your footage, but the aforementioned sidebar reveals a free alternative for XP users.

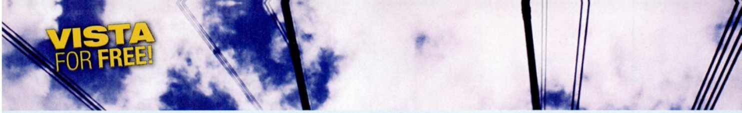
Turn your PC into a PVR

If you've got a TV tuner card installed in your PC, and you want an open source alternative to Media Center, then install Media Portal from this issue's disc. It's still in early development, but it already contains everything you need to manage your TV, music (including radio), video, and pictures from one location.

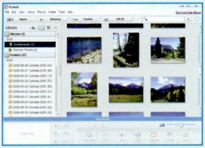
Like Media Center itself, it's designed to be run full-screen with a remote control, but you can control it using your mouse if you wish. After installation, double-click the MediaPortal Setup shortcut and work your way through the wizard to catalogue your hard drive and configure other preferences.

Once setup is complete, you can fire up the program proper. It's got a familiar look and feel to it, but if you don't like the default bright blue theme, you can download another from **www.mediaportal-skins.net.** The black themes will probably go best with your Vista look. Save the zip file to your hard drive and then extract the folder within to C:\Program Files\Team MediaPortal\MediaPortal\Skin.

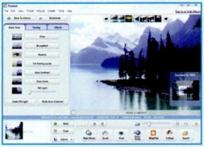
Open MediaPortal again and select Settings from the scrolling menu. Choose General and you'll be able to switch skins from the top option (click the small play icon to make the change).



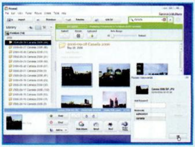
The 411 on Picasa 2



1. After installing, run Picasa and choose whether to let it scan your entire hard drive or just the selected folders for images. Once it's complete, your entire photo collection is accessible from this one dialog.



2. Double-click a photo to view it close-up. Like Photo Gallery, Picasa provides easy access to a number of "quick fixes" for those images that aren't quite up to scratch.



3. You can add tags to your photos. Select your photos in library view and press [Ctrl] + [K] to bring up the Add Keywords dialog. Enter keywords and click Add. When you use Picasa's search box, you'll get instant results.

More Vista in My XP, Please!

Windows XP is now more secure, looks better, and boasts a decent array of multimedia tools. However, the Vista-like makeover doesn't stop there...

Your copy of Windows XP now looks and acts a lot more like Windows Vista, but we're not finished yet. Vista bundles a new calendar tool and revamped email program. It even enables you to repartition your hard drive without data loss. This only scratches the surface of what improvements it offers for your computing experience. We'll finish our transformation feature by pointing you in the direction of tools to make your copy of XP even closer to Vista.

Stay connected

One of Vista's big selling points is its "Connected" moniker. This is part of Microsoft's aim to make it as easy as possible to connect various devices to your PC, while acknowledging that an increasing number of PCs are now connected to the Internet. The most visible component of this is Vista's Sync Center, but all it offers is a central interface for monitoring those devices you hook up to your PC; you're still expected to install separate software for each one. In fact, the Sync Center isn't as friendly as it looks, so perhaps it's not a bad thing that you can't get this all-in-one interface in XP.

One clever feature is Vista's support for secondary devices through its Windows Sideshow technology. You'll be able to check your email without powering up your laptop, for example, by using the secondary

Meet Windows Media Player 11

It comes standard with Vista, but you can also download it—free—for Windows XP!

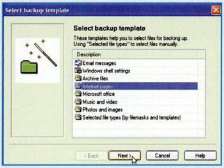
Windows Media Player is one of the few Windows components to continue its development since Windows XP was released. The all-new version 11 is the third revision since version 8 saw the light of the day with Windows XP five years ago, and this latest release is a doozy. (Windows Media Player 11 may be downloaded for free from **www.microsoft.com/windows/windowsmedia/**.)

A slick new black interface is joined by a radical new library view, where highly visible album covers are the order of the day. The Sync tab has been overhauled to make it easier than ever to transfer music, photos, and more between your PC and various mobile devices, including Windows Smartphones, MP3 players, and PDAs. Once a device is connected, you can easily browse its contents from the left-hand menu.

When it comes to burning CDs, Media Player 11 is more tolerant and versatile than its predecessors. You can even burn across multiple discs: Media Player will queue up the tracks, show you where the breaks occur, and then prompt you to replace each disc once it's filled.

One of Vista's headline Media Player features is Media Sharing. This enables you to make your music library accessible to other computers. Crucially, while it's possible to make your XP music library accessible to other Vista users on your network, you can't access other libraries in the same way. The best way to work around this limitation is to share your music folders on other machines and then configure Media Player to monitor those folders. To achieve this, select Tools > Options > Library tab and then click Monitor Folders.

Back Up Your Data With DFIncBackup


Select backup template

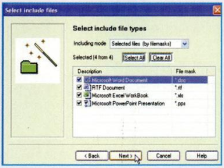
Select backup template

These templates help you to select files for backing up. Using "Selected file types" to select files manually.

Description
Email messages
Windows shell settings
Archive files
Internet pages
Microsoft office
Music and video
Photos and images
Selected file types (by filemasks and templates)

< Back
Next >
Cancel
Help

1. Click Create New, give your project a suitable name, and press OK. Click Next, select a suitable back-up template, and click Next again. Some templates such as email pre-select the location; others require you to select the folders to include.


Select include files

Select include file types

Including mode: Selected files (by filemasks)

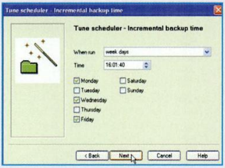
Selected (4 from 4)

Select All
Clear All

	Description	File mask
☑	Microsoft Word Document	*.doc
☑	RTF Document	*.rtf
☑	Microsoft Excel WorkBook	*.xls
☑	Microsoft PowerPoint Presentation	*.pps

< Back
Next >
Cancel
Help

2. Click Next. If asked, review which file types to include and/or exclude in your backup. Click Next twice; choose Yes to add extra folders to your project, or click No to continue. Click Next. Pick where to save your backup and click Next.


Tune scheduler - Incremental backup time

Tune scheduler - Incremental backup time

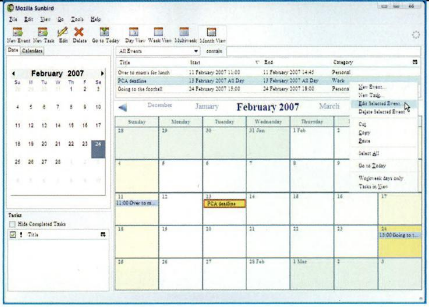
When run: week days

Time: 16:01:40

☑ Monday
☐ Tuesday
☑ Wednesday
☐ Thursday
☑ Friday
☐ Saturday
☐ Sunday

< Back
Next >
Cancel
Help

3. Select incremental or differential backup and click Next. Leave the default selection rules ticked and click Next twice to schedule your backups: first full (we suggest monthly), then incremental (daily or weekly). Click Next, password-protect if you wish, and click Next > Finish.


Mozilla Sunbird
File Edit View Go Tools Help
New Event
New Task
Edit
Delete
Go to Today
Day View
Week View
Multiweek
Month View
Date
Calendars
February 2007
Tasks
Hide Completed Tasks
December
January
February 2007
March
New Event...
New Task...
Edit Selected Event...
Delete Selected Event
Cut
Copy
Paste
Select All
Go to Today
Working days only
Tasks in View

All Events contain

Title	Start	End	Category
Over to mum's for lunch	11 February 2007 11:00	11 February 2007 14:45	Personal
PCA deadline	13 February 2007 All Day	13 February 2007 All Day	Work
Going to the football	24 February 2007 15:00	24 February 2007 18:00	Personal

Add some of Vista's Calendar features to XP with Mozilla Sunbird.

display on the lid and a Sideshow gadget to quickly see what's in your inbox. You'll need to buy a new PC to benefit from this technology, but if you have a wireless PDA, you can already get an instant mail preview without having to switch on your PC. Just download and install PPCMCheck—from **http://home.woh.rr.com/rolswana/**—onto your handheld. It works with any POP3 mail account.

Windows Meeting Space enables people to take part in virtual meetings using the Internet, but you can achieve similar functionality using the NetMeeting tool. It's hidden away in XP, so click Start > Run, type *conf*, and press [Return] to access it. NetMeeting will work with all versions of Windows up to and including XP; Meeting Space will work only in Vista. Outlook Express has been renamed Windows Mail in Vista, but aside from a built-in spam filter there's little to recommend it. Instead, take a look at Comodo AntiSpam (on this issue's disc), which works with most major email clients and offers an alternative approach to blocking unwanted mail. (See **www.comodoantispam.com** for details.) Alternatively, vet email before it's downloaded to your PC with Chrysanth Mail Manager.

Vista adds a new Calendar function to the OS. If you're an Outlook user, then you're already covered, but everyone else can add this feature for free with Mozilla Sunbird, which is also on the disc. It's not quite in the same league as Windows Calendar, but it's early in its development, so expect it to offer better competition

sooner rather than later. If you're signed up with Google, Yahoo!, or Hotmail, check out their Web-based calendars, too.

Protect your data

The Windows Backup tool has seen its first major—and well overdue—revamp in Vista, leaving you with no excuse for not putting a back-up plan in place. It's wizard-based, needs setting up only once, and supports CD and DVD. XP's built-in backup tool can be scheduled to run automatically, too, but it's not particularly user-friendly and doesn't support the shiny discs. Vista's Backup and Restore Center offers both file-based and imaging backups, so you need to find equivalents for both in XP. The closest we've found in terms of a file-based backup is DFIncBackup Home Edition, which you'll find on the disc. Although it claims to support burning directly to CD, we couldn't get it to work with CDBurnerXP Pro. Instead, we recommend that you back up to your hard drive and then manually burn the zipped archives to CD or DVD afterward. If you've formatted a rewritable CD or DVD with packet-writing software, though, you can use that instead. The walkthrough reveals how to use the program.

Take the time to scratch beyond DFIncBackup's surface. You can create your own templates, edit any backup jobs, and restore your backups from the main program interface. If it's too complicated, then try FAB's AutoBackup from this issue's disc as an alternative. There's no scheduling tool, but you just tick what you want to back up and get on with it.

In terms of imaging your hard drive, we're not fans of imaging an entire drive to CD, so DriveImage XML—free and also on this issue's disc—will do a perfectly good job here. When it comes to restoring system partitions using the program, though, you'll need to boot from a BartPE recovery disc. See "Boost XP's Recovery Options" (below) for further details.

All done!

Whether or not you've slavishly followed every single tip in this feature, you now have an OS that more closely resembles Windows Vista, be it in terms of looks, security or functionality.

In the long term it'll make sense to upgrade to Vista. But if your PC isn't up to the demands of Microsoft's new OS, you can't afford the upgrade itself, or you don't want to jump on the bandwagon until early glitches have been ironed out and any security holes patched, you can stick with XP, secure in the knowledge that you've just given it a whole new lease on life.

More System Tools

Make sure that XP keeps up with the Vistas with this collection of extra tools

Partitioning your hard drive into more manageable chunks just got easier with Vista, now that the Disk Management tool is able to handle non-destructive partitioning. The only free equivalent is Gnome Partition Editor. This is Linux-based, but can be run from a bootable LiveCD.

GPartEd is available as an ISO image from **http://gparted.sourceforge.net/livecd.php.** Burn it to CD by launching CDBurner XP Pro, electing to create a data CD and then choosing File > Write Disc from ISO File to burn it to a blank disc.

Vista's System Assessment Tool benchmarks your system and adjusts Vista's settings if necessary to allow for a less-powerful machine. If you want to keep an eye on XP's performance, install SiSoft Sandra Lite from the disc.

Vista is designed to monitor your hard drive's health, helping pre-empt problems that could bring your data crashing down around your ears. Install HD Tune from the disc to periodically check your hard drive in Windows XP.

Vista is making a big deal of its SuperFetch technology, which speeds up Windows boot times and individual application loading times. XP introduced the pre-fetching technology, but didn't handle it that well (hence Vista's much-vaunted development). Install Windows XP PreFetch and Control from the disc and switch to the recommended setting. You can also empty the Prefetch folder from here, but instead click Start > Run, type prefetch, and click OK to manually browse the Prefetch folder, deleting obsolete and rarely used entries. Some programs will load a little slower, but XP will boot up that little bit quicker.

Boost XP's Recovery Options

Mimick Windows Vista's user-friendly approach

When you boot from your Vista disc, choose Repair Computer and you'll see one of five options to choose from: Startup Repair, System Restore, Windows Complete PC Restore, Windows Memory Diagnostic Tool, and Command Prompt.

Most start-up problems are Registry related, so go to **http://erunt.en.softonic.com/** and download and install ERUNT. This program makes a backup each time your PC boots and makes it possible to restore your Registry from the Recovery Console or—if you prefer—your BartPE rescue disc (see below). Check out **http://regrecovery.supportpcs.co.uk** for a tutorial on Registry recovery in XP.

Windows Complete PC Restore works in conjunction with Vista's Backup tool – see the main text for details. Windows Memory Diagnostic Tool can be replaced by Memtest86, which you can download from **www.memtest86.com** and place on a bootable floppy or CD. The Command Prompt works in a similar way to XP's Recovery Console and so is already covered.

If you're serious about protecting your PC and not being caught short in times of trouble, take the time to create a BartPE recovery disc. This enables you to boot from CD into a graphic interface not unlike Windows itself. You can run various system tools, access the Internet to troubleshoot a problem, and copy data from your hard drives to another location, including a USB flash drive or even burning it to CD or DVD. Go to www.maximumpc.com/2005/09/how_to_make_a_b.html for a complete guide covering how to make your own BartPE disc. MPC

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- Logitech K/B, Mouse, 2-Channel HDTV Tuner
- 30" 2560x1600 Dual-Link LCD Panel
- Windows 64-bit Vista or 32-bit XP Professional

QX6700, 2x8800GTX, 30" 4x500G $6,888
E6700, 2x8800GTS, 4x22" 1x500G $4,975

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Poly A680X2SLi4

- 2xAMD Athlon™64 FX-74 Dual-Core Processors
- NVIDIA nForce® 680A SLI Chipset
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- 7.1 Audio Sound, 7.1 Subwoofer Speakers
- Logitech K/B, Mouse, 2-Channel HDTV Tuner
- 30" 2560x1600 Dual-Link LCD Panel
- Windows 64-bit Vista or 32-bit XP Professional

2xFX74, 2x8800GTX, 30"LCD 4G-800 $6,999
2xFX70, 2x8800GTS, 2 x 22" 4G-667 $4,999

(We recommend these configurations based on price and performance value, more choices are available on online or by phone)

SLI Ready Core2 Duo
Poly i570SLi-Core2

- Intel Core™2 Duo Processor E6600 4M Cache
- NVIDIA nForce® 570 SLI™ Chipset
- 2GB Dual Channel 667MHz DDR2 Memory
- NVIDIA GeForce® 8600GT-256M Graphics
- 4 x 320GB SATA-II 7200RPM RAID-5 Storage
- Sony 16X Dual Layer DVD-RW Drive
- 9-in-1 Reader, Firewire, Gigabit LAN
- Logitech Keyboard and Optic Mouse
- Windows 64-bit Vista Premium or 32-bit XP Home

E6600, 8600GT, 4x320G, 22" LCD $1,950
E6300, 7600GS, 250G, 1G, w/o LCD $ 850

Quiet Portable PC
MiniBox 430AM2-5200

- AMD Athlon™ 64 X2 Dual-Core 5200+ Processor
- NVIDIA nForce® 430 Chipset
- 2GB Dual Channel 667MHz DDR2 Memory
- NVIDIA GeForce® 6150 DVI+VGA Dual Graphics
- 2 x 320GB SATA-II 7200RPM RAID Drives
- Sony 16X Dual Layer DVD-RW Drive
- 9-in-1 Reader, Firewire, Gigabit LAN
- Logitech Keyboard and Optic Mouse
- Windows 64-bit Vista Home or 32-bit XP Home

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3600X2, 250G, 1G, w/o LCD, MiniTower $599

Core2 Extreme LAN Party
MiniBox 965Qx

- Intel Core™2 Duo X6800 Extreme Processor
- 2GB Dual Channel 800MHz DDR2 Memory
- NVIDIA GeForce® 8800GTX-768M SLI Graphics
- 10K RPM 74GB + 250GB SATA II HD
- Sony 16X DVD-RW, 2nd DVD-CDRW Drive
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- 2GB Dual Channel 667MHz DDR2 Memory
- 1.5TB 3x500GB RAID-5 SATA-II HD Storage
- 2X Blu-Ray 25/50G Rewriteable Optical Drive
- 6-in-1 Reader, 1394, GigaLAN, 5.1 Sound
- Dual Channel Digital+Analog TV Tuner
- Vista MCE, Logitech Cordless KB+Mouse

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3500+, 1G, 3x320G, 1Tuner, DVD-RW $ 999

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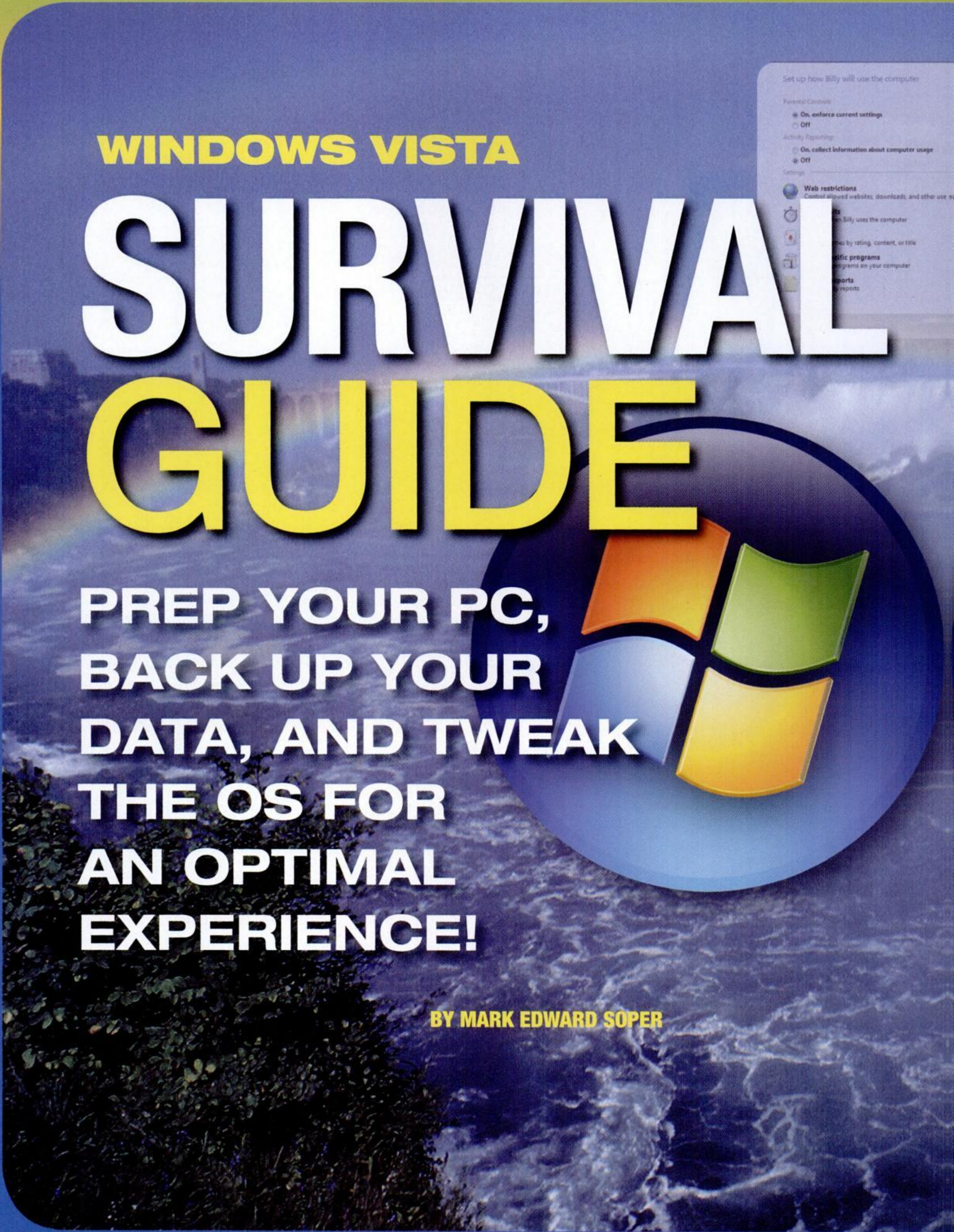
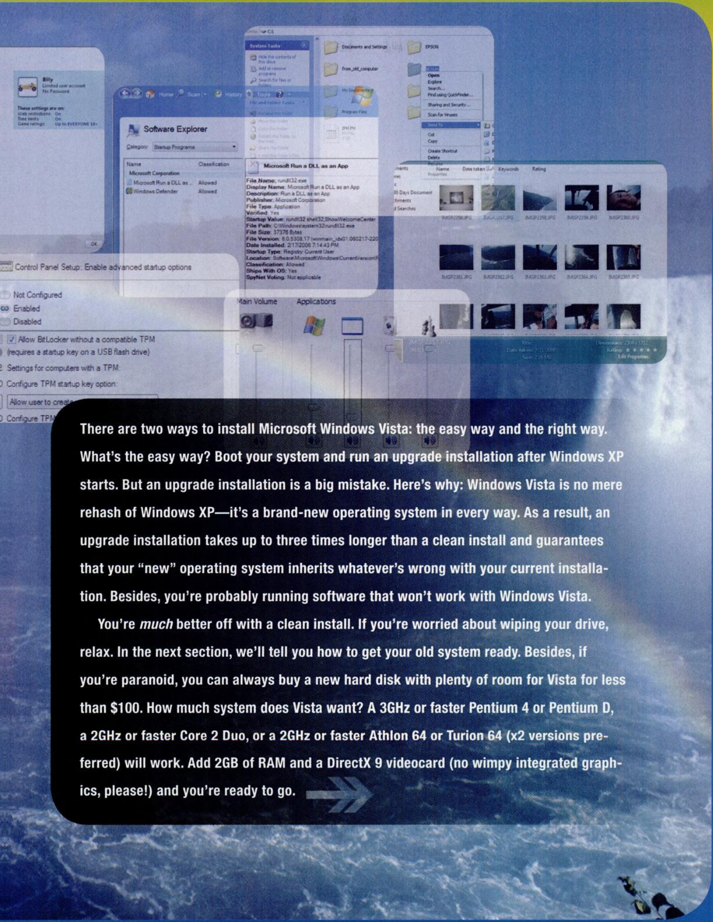

Set up how Billy will use the computer
Parental Controls:
● On, enforce current settings
○ Off
Activity Reporting:
○ On, collect information about computer usage
● Off
Settings
Web restrictions
Control allowed websites, downloads, and other use
Billy uses the computer
by rating, content, or title
ific programs
grams on your computer
ports
reports

WINDOWS VISTA

SURVIVAL GUIDE

PREP YOUR PC, BACK UP YOUR DATA, AND TWEAK THE OS FOR AN OPTIMAL EXPERIENCE!

BY MARK EDWARD SOPER


Billy
Limited user account
No Password
Software Explorer
Category: Startup Programs
Microsoft Run a DLL as an App
Windows Defender
Control Panel Setup: Enable advanced startup options
Not Configured
Enabled
Disabled
Allow BitLocker without a compatible TPM
(requires a startup key on a USB flash drive)
Settings for computers with a TPM:
Configure TPM startup key option:
Main Volume
Applications
Documents and Settings
EPSON
from_old_computer
Program Files
Open
Explore
Search...
Sharing and Security...
Scan for Viruses
Send To
Cut
Copy
Create Shortcut
Delete
Name
Date taken
Keywords
Rating

There are two ways to install Microsoft Windows Vista: the easy way and the right way. What's the easy way? Boot your system and run an upgrade installation after Windows XP starts. But an upgrade installation is a big mistake. Here's why: Windows Vista is no mere rehash of Windows XP—it's a brand-new operating system in every way. As a result, an upgrade installation takes up to three times longer than a clean install and guarantees that your "new" operating system inherits whatever's wrong with your current installation. Besides, you're probably running software that won't work with Windows Vista.

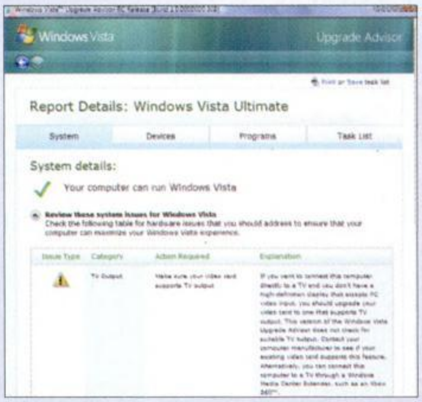
You're *much* better off with a clean install. If you're worried about wiping your drive, relax. In the next section, we'll tell you how to get your old system ready. Besides, if you're paranoid, you can always buy a new hard disk with plenty of room for Vista for less than $100. How much system does Vista want? A 3GHz or faster Pentium 4 or Pentium D, a 2GHz or faster Core 2 Duo, or a 2GHz or faster Athlon 64 or Turion 64 (x2 versions preferred) will work. Add 2GB of RAM and a DirectX 9 videocard (no wimpy integrated graphics, please!) and you're ready to go.

GOODBYE, WINDOWS XP

Follow these steps to ensure a smooth and painless transition to your new OS

1 RUN THE VISTA UPGRADE ADVISOR

Insert the Windows Vista DVD and click "Check compatibility online" to open the Windows Vista Upgrade Advisor in Internet Explorer. In just a few minutes, you'll find out whether your hardware can run Vista, which Windows Vista edition Microsoft thinks is the best match for your hardware, what system upgrades are necessary to make your system compatible with a particular Vista edition, which devices need driver downloads for compatibility with Vista, and which currently installed programs are incompatible with Vista. The Upgrade Advisor warns you if you need replacements or updates for any of your programs.



Report Details: Windows Vista Ultimate

System details:

✓ Your computer can run Windows Vista

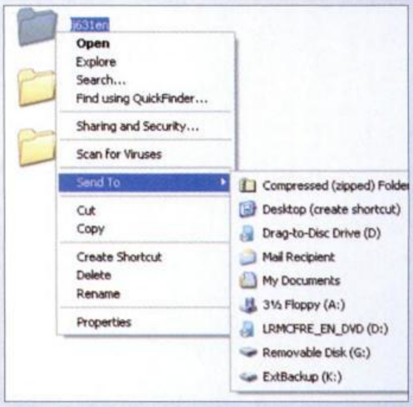
Review these system issues for Windows Vista
Check the following table for hardware issues that you should address to ensure that your computer can maximize your Windows Vista experience.

Issue Type	Category	Action Required	Explanation
⚠	TV Output	Make sure your video card supports TV output	[illegible]

Review each section of the report to make sure your system is Vista-ready.

2 BACK UP YOUR OLD DATA

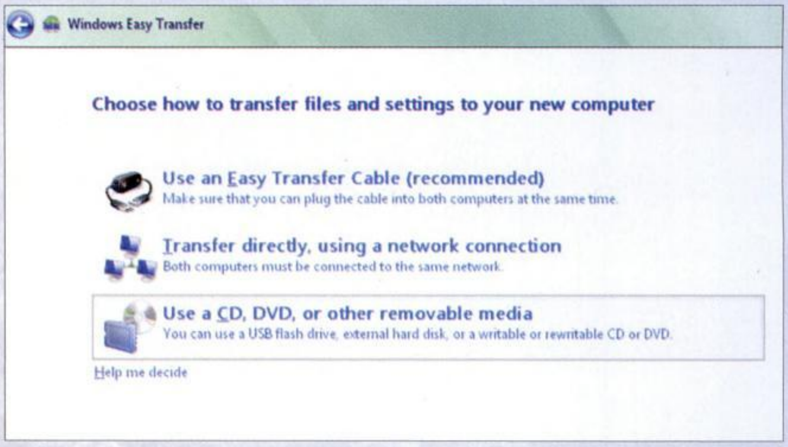
Step two in the Vista upgrade process is backing up your old data. While the Windows Easy Transfer program (step three) will transfer email, documents, favorites, and other files and settings, you should also back up any remaining important files, such as email messages from non-Microsoft email clients, layouts for CD and DVD mastering created with programs such as Roxio Easy Media Creator or Nero Burning ROM, and so on. To ensure that your data can be easily retrieved, drag and drop your files to another drive or burn a CD or DVD, rather than relying on a third-party backup program (which might not be compatible with Vista).



Here, we're preparing to copy a folder with Microsoft's Send To function.

3 RUN EASY TRANSFER

To start Windows Easy Transfer on your Windows XP system, insert the Windows Vista DVD and select "Transfer files and settings from another computer" from the Install Windows menu. Click Next from the opening dialog. You cannot have any other programs running while Windows Easy Transfer is running. If you still have programs running, a Close Programs dialog appears. Click Close to close your programs. You can perform direct transfers between old and new computers using either a special USB cable called an Easy Transfer Cable, a network connection, or a USB or removable-media drive. The easiest solution is an external USB hard disk, which you can choose in the next dialog box. You can also select a CD, DVD, USB flash memory drive, or network folder. Click Next to continue. Click Browse and navigate to the drive where you want to store the backup and then click Next. To transfer all the user accounts on your old computer to your new computer, select "All user accounts." You can also transfer just your own user profile or click Advanced Options to specify exactly which profiles to transfer. The next dialog box displays the files and folders that will be transferred and tells you how much disk space is required. Use Customize to fine-tune your selections. Click Transfer to begin the file-copying process. When it's done, you can move on to installing Vista.



Choose how to transfer files and settings to your new computer

Use an Easy Transfer Cable (recommended)
Make sure that you can plug the cable into both computers at the same time.

Transfer directly, using a network connection
Both computers must be connected to the same network.

Use a CD, DVD, or other removable media
You can use a USB flash drive, external hard disk, or a writable or rewritable CD or DVD.

Select an external drive or removable-media drive as the location for the data from your Windows XP installation.

HELLO, VISTA

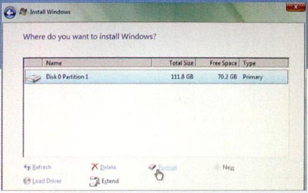
Now you're ready to get the new OS up and running

1 INSTALL VISTA

To start the Windows Vista installation process, insert the Windows Vista DVD and reboot your system. Press the spacebar to boot from the DVD when prompted. On the first dialog, you're probably safe sticking with the defaults, but if you need to change the install language, time and currency format, or keyboard layout, this is the place to do it. Then press Install Now to continue. The next screen deals with activation. You can enter the product key either when prompted or later. Vista will work for 30 days without an activation key. When it comes time to activate, you'll need to use a key for the version you have installed. (It's important to note that you can't downgrade from Premium to Home Basic or from Ultimate to Home Premium without a reinstall though.) There's an option to automatically activate Windows, but we recommend against using it, in case there are problems with your Windows Vista install on this particular system. Click through the rest of the prompts until you get to the hard drive selection phase.

If you are installing Vista on a brand-new (or empty) hard disk, select Unallocated Space on the drive you want to use and press Next to continue. Windows will handle the rest. (If you want to use BitLocker hard drive encryption, you'll need to follow some different steps, check page 29 for more details.)

If you're replacing an existing Windows installation, you need to delete the old partition first. To do that, select the drive with your installation and click the partition you want to delete. Click Drive Options (Advanced) to display Delete, Extend, Format, and New Partition options. Click Delete to get rid of the partition, then select Unallocated Space and press Next to continue.


Install Windows
Refresh
Delete
Format
New
Load Driver
Extend

Where do you want to install Windows?

Name	Total Size	Free Space	Type
Disk 0 Partition 1	111.8 GB	70.2 GB	Primary

You'll need to format your existing Windows XP installation to make room for Windows Vista.

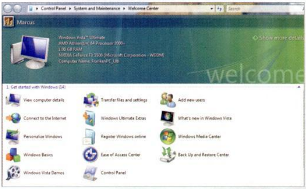
You're almost done! After the system reboots, you'll need to set up an account. Enter your user name and password when prompted and select a picture for your user account before moving to the next screen. Give your PC a name and select a desktop background, then move on to the next screen and select "Use recommended settings" to enable automatic security updates for your PC. On the final screen, you'll need to select your time zone and adjust your system's internal clock before the Windows installer completes.

2 BOOT INTO VISTA

The first time you start Windows Vista, it takes a few minutes to calculate the Windows Experience Index, which will give you a very rudimentary idea of how your computer performs. The Experience Index measures your CPU, memory, disk drive, and graphics performance.

Your first stop in Vista should be the System Properties control panel, where you'll find the Device Manager. To open the Device Manager, click the Start menu; go to Control Panel and click System and Maintenance, then click System. Next, click the Device Manager, which is on the top-left portion of the screen. Should you see any exclamation points in the Device Manager window, you'll need to determine what the problem is. Usually, getting incompatible hardware working is as easy as downloading and installing a new driver, but it can be more complex than that. When you're done, you should check your computer's Windows Experience Index base score to make sure everything in your system is working as expected.

While we're in the Control Panel, it's worth mentioning that many of the functions you've grown accustomed to have been moved around. However, the redesigned interface actually makes sense. The new design, when paired with the kick-ass search engine—which allows you to search for not only a control panel's name but also individual functions inside the panel—works very well. If you want to change the background, simply type "background" into the search bar. We were very impressed with the usefulness of the search feature.


Control Panel ▸ System and Maintenance ▸ Welcome Center
Search
Marcus
Show more details
welcome
1. Get started with Windows (14)
View computer details
Transfer files and settings
Add new users
Connect to the Internet
Windows Ultimate Extras
What's new in Windows Vista
Personalize Windows
Register Windows online
Windows Media Center
Windows Basics
Ease of Access Center
Back Up and Restore Center
Windows Vista Demos
Control Panel

Windows Vista™ Ultimate
AMD Athlon(tm) 64 Processor 3000+
1.00 GB RAM
NVIDIA GeForce FX 5500 (Microsoft Corporation - WDDM)
Computer Name: FrankenPC_Ult

Use the Welcome Center to finish up your installation and make changes to your network settings, check for devices that need drivers, and personalize your display and audio settings.

MOVING DAY

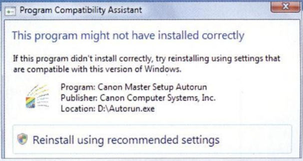
Furnish Vista with all the creature comforts of your old OS

1 INSTALL YOUR OLD APPS

After you fine-tune your Windows Vista installation, it's time to reinstall your old applications—assuming they're compatible with Windows Vista. If you ran the Windows Vista Upgrade Advisor before starting the installation process, you know which applications work—and which ones need to be updated or replaced. Still, you may encounter some problems.

After the installer finishes installing some older apps, you'll be prompted by a dialog box that asks whether the app installed correctly. If it didn't, you can attempt a reinstall using slightly modified permissions, which frequently fixes compatibility problems that occurred during the initial attempt.

However, if an application installs but doesn't appear to work properly, it's helpful to know a few things that have changed between XP and Vista. Once the installer has run, applications are allowed only read access to files in the Program Files folder; they can't write to anything inside the Program Files directory. However, some older applications need to store data and configuration files (such as .ini files) in the same folder as application files; if the app can't write to those files, it won't work properly. So how does Windows Vista accommodate these apps without compromising security? Vista automatically redirects write operations that occur in Program Files to a special folder in your user profile. For example, if you install an application that attempts to create C:\Program Files\<application>\Setup.ini, Vista's virtualization saves the Setup.ini file to C:\Users\<your_account>\AppData\Local\VirtualStore\Program Files\<application>\Setup.ini.


Program Compatibility Assistant

This program might not have installed correctly

If this program didn't install correctly, try reinstalling using settings that are compatible with this version of Windows.

Program: Canon Master Setup Autorun
Publisher: Canon Computer Systems, Inc.
Location: D:\Autorun.exe

Reinstall using recommended settings

The Program Compatibility Assistant helps you solve problems with legacy applications that don't install properly.

Note that the AppData folder is normally hidden. If you need to make adjustments to the config files for a legacy app or delete a file, you may have to access the VirtualStore folder manually.

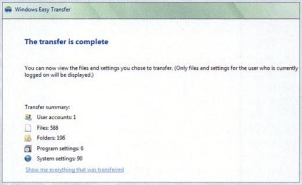
Once your apps are installed, if you're still having trouble getting them to run, try the Program Compatibility Assistant. With it, you can force Vista to emulate Windows XP, always run with full administrator privileges, or even disable Aero Glass. You can access the compatibility settings by right-clicking the app's shortcut, selecting Properties, and clicking the Compatibility tab.

2 COMPLETE THE EASY TRANSFER MOD

To finish moving your data from your old Windows XP install, you'll need to run the Easy Transfer Wizard from within Vista. When you're in the Welcome Center, click "Transfer files and settings," then click Start Windows Easy Transfer to start the wizard. You'll need to provide administrator-level credentials when prompted by User Account Control.

To transfer your settings from XP, select "Continue a transfer in progress." Next, navigate to the drive and folder containing the SaveData.MIG file. Then, to properly migrate your profile, you'll want to match up the user account on the new computer with the appropriate user account on the old computer. Review the selected files and settings, then click Transfer to start the transfer process. Once the transfer is active, you can leave your computer. Depending on the amount of data to transfer, it could take several hours to complete.

At the end of the transfer process, a "Transfer is complete" dialog appears, providing a summary of the user accounts, files, folders, program settings, and system settings transferred. You should take a look at the detailed Windows Easy Transfer Summary and save it as an HTML file, so you'll have a manifest of files you brought to Vista.



The transfer is complete

You can now view the files and settings you chose to transfer. (Only files and settings for the user who is currently logged on will be displayed.)

Transfer summary:
User accounts: 1
Files: 588
Folders: 106
Program settings: 6
System settings: 90

Windows Easy Transfer provides a handy summary of what files have been transferred to your Windows Vista installation.

After you restart your computer, you can use programs that depend upon the settings and files you transferred with Windows Easy Transfer. For example, when you start Windows Mail, messages from Outlook Express (which stores messages in database files) are imported as individual message files into the current user's AppData folder.

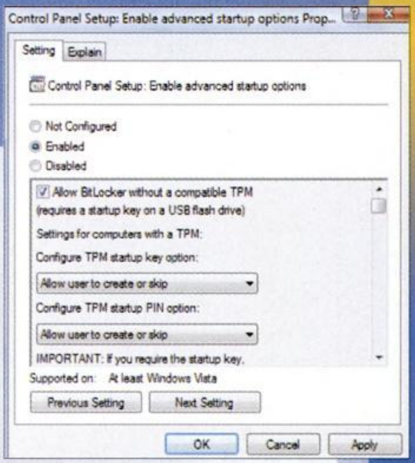
WORK IT!

Power users will surely want to avail themselves of these advanced Vista tricks

1 GET READY FOR BITLOCKER

If you use Windows Vista Ultimate or Enterprise, you can protect your system drive's contents from being viewed by laptop thieves or after-hours hackers with BitLocker, which encrypts the system drive. To use BitLocker on your system, you must configure the drive properly. You'll need to have two partitions: a 1.5GB partition used to start the system, while the remainder of the hard disk will comprise a second partition and be encrypted using BitLocker. Both partitions must be formatted with the NTFS file system.

In order to enable BitLocker, you'll need to perform a clean install of Vista on your system. First, boot your machine from the Windows Vista DVD and run the Recovery Environment. Open the command prompt, start Diskpart, and perform the following commands (Warning! This will format your hard drive!): `select disk 0` (selects first hard disk); `clean` (deletes partition table); `create partition primary size=1500; assign letter=S; active` (creates 1.5GB partition s: and sets it to be bootable); `create partition primary; assign letter=C` (uses remainder of disk for c:); `list volume` (displays disk information); `exit` (closes Diskpart); `format c: /y /q /fs:NTFS; format s: /y /q /fs:NTFS` (formats partitions created with Diskpart); `exit` (closes command prompt). When you install Vista, install it to the c: drive.



Control Panel Setup: Enable advanced startup options Prop...

Setting | Explain

Control Panel Setup: Enable advanced startup options

○ Not Configured
● Enabled
○ Disabled

☑ Allow BitLocker without a compatible TPM (requires a startup key on a USB flash drive)

Settings for computers with a TPM:

Configure TPM startup key option: Allow user to create or skip

Configure TPM startup PIN option: Allow user to create or skip

IMPORTANT: If you require the startup key,

Supported on: At least Windows Vista

Use the Group Policy Object Editor to enable BitLocker on systems that don't include a compatible TPM.

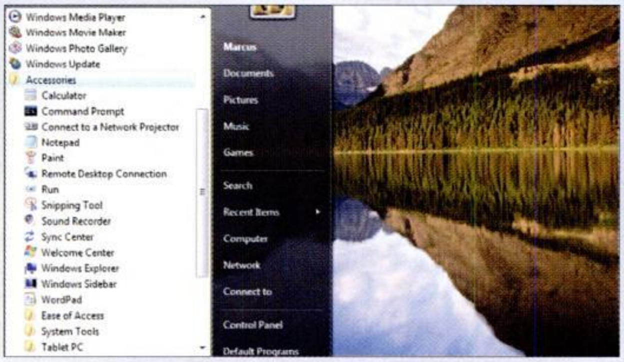
Before you run the BitLocker setup program, you need to determine if your system includes a Trusted Platform Module (TPM) chip; if it does, enable it in your system BIOS. On TPM-equipped systems, BitLocker uses a PIN number stored on the motherboard (or on a USB key) to decrypt your drive, so you won't be able to decrypt your data using another machine. You can also use BitLocker without a TPM chip (a USB flash drive is used for credentials), but you'll have to tweak some settings in the Group Policy Object Editor (gpedit.msc). Open Computer Components, Administrative Templates, Windows Components, BitLocker Drive Encryption, Control Panel Setup and then click Enable Advanced Startup Options. Select the option to allow BitLocker without a compatible TPM. To complete the preparation process, click Apply and then OK to close the Group Policy Object Editor. Once you've done that, you can run the BitLocker setup program in the Control Panel.

2 GET AROUND IN VISTA.

Windows Vista enables you to go almost anywhere in your system right from the Start menu without the Start menu taking over your screen. The right side of the Start menu provides shortcuts to the current user's folder hierarchy, as well as direct links to the user's document, picture, music, and game folders. Each link opens a customized Windows Explorer view. For example, click Games, and the Games Explorer displays installed games, including ESRB ratings and package art. Click Music, and the Music Explorer provides buttons for playing and burning music.

You can find any type of file by clicking Search and entering text that matches the file name, extension, or file contents. Click Computer to view all your connected drives and get access to system properties, drive mapping, and other tools. Click Network to view network connections and shared resources. Click Connect To to connect to a network—dialup, wired, or wireless.

Fast search even found its way into the Start menu. To find and launch a program quickly, type its name into the search tool above the Start button and press Enter.



The improved Start menu gives you quick access to programs without covering up the links to user folders on the right pane or the new Windows Sidebar.

On the right side of the screen, the new Windows Sidebar displays a customizable list of utilities ("gadgets"), perfect for making use of the extra space available in a widescreen display. However, you can also hide the Sidebar or adjust the transparency level of the gadgets to make them less noticeable (click a transparent gadget to see it in normal mode). The Power button on the Start menu actually puts your system into sleep mode, but you can change that functionality by going to Power Options, clicking Change Plan Settings, and selecting "Change advanced power settings." Then expand the Power buttons and lid section and change the Start Menu power-button action.

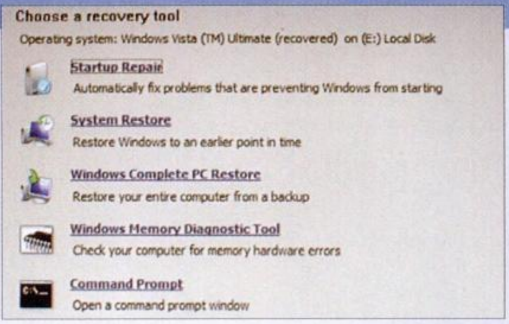
TROUBLESHOOTING VISTA

Microsoft has equipped its new OS with some tools to make problem-solving easier

1 THE RECOVERY ENVIRONMENT

Microsoft Windows Vista includes a comprehensive toolkit to fix a broken Windows installation: the Recovery Environment. To launch the Recovery Environment, boot your system from the Windows Vista DVD, select your language, time, currency, and keyboard settings, and in the next dialog box, select the Repair option.

The Recovery Environment includes five tools: Startup Repair automatically analyzes boot-level problems and performs the appropriate repairs. Because startup repairs may require multiple passes, you can run Startup Repair up to five times before it gives up. Run it, restart your system, and continue running it if the system won't start. You can also run System Restore from the Recovery Environment, enabling you to undo a software or hardware installation that prevents your system from starting. Windows Complete PC Restore is a full-blown disaster-recovery solution for Vista Business, Ultimate, or Enterprise editions. It restores the backup images made using the backup software included with those versions of Vista. Windows Memory Diagnostic Tool tests all system memory, offering three test levels and many customization options to help you find memory (or CPU cache) problems. The Command Prompt, unlike the limited Windows XP Recovery Console, enables you to run any command-line program needed for system or data recovery, including Copy, Xcopy, and Robocopy (a supercharged file/folder copy program). The Command Prompt can also format CD and DVD media and can copy data to or from USB drives connected to the computer. To get help with the Command Prompt, enter `Help` at the Command Prompt to see a list of commands and add `/?` to any command you'd like to see specific help for.



Choose a recovery tool

Operating system: Windows Vista (TM) Ultimate (recovered) on (E:) Local Disk

Startup Repair
Automatically fix problems that are preventing Windows from starting

System Restore
Restore Windows to an earlier point in time

Windows Complete PC Restore
Restore your entire computer from a backup

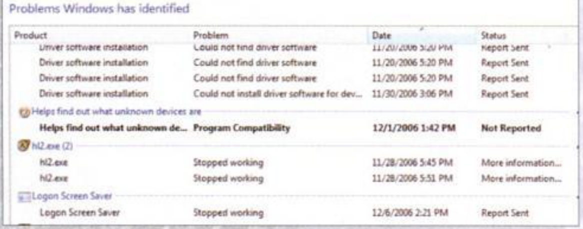
Windows Memory Diagnostic Tool
Check your computer for memory hardware errors

Command Prompt
Open a command prompt window

The Recovery Environment provides a quintet of powerful repair features to fix systems that won't boot; a full-featured Command Prompt enables you to run any command-line tool, including file-copy and disk-management utilities.

2 PROBLEM REPORTS AND SOLUTIONS

When you have a hardware or software problem, Windows Vista captures information about the problem and uploads it to Microsoft for analysis. To view problems and solutions, open the Problem Reports and Solutions applet in the Control Panel. Use Problem Reports and Solutions to view a history of problems and their solutions, configure problem reporting, list current problems and upload them, and clear the solution and problem history. When you upload problems, you may be prompted to upload additional information to help find a solution. Go ahead and say "Yes." You can review the details in case you're feeling paranoid.



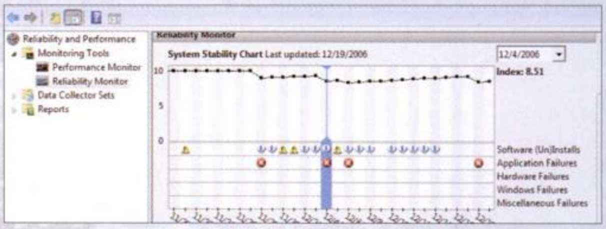
Problems Windows has identified

Product	Problem	Date	Status
Driver software installation	Could not find driver software	11/20/2006 5:20 PM	Report Sent
Driver software installation	Could not find driver software	11/20/2006 5:20 PM	Report Sent
Driver software installation	Could not find driver software	11/20/2006 5:20 PM	Report Sent
Driver software installation	Could not install driver software for dev...	11/30/2006 3:06 PM	Report Sent
Helps find out what unknown devices are			
Helps find out what unknown de...	**Program Compatibility**	**12/1/2006 1:42 PM**	**Not Reported**
hl2.exe (2)			
hl2.exe	Stopped working	11/28/2006 5:45 PM	More information...
hl2.exe	Stopped working	11/28/2006 5:51 PM	More information...
Logon Screen Saver			
Logon Screen Saver	Stopped working	12/6/2006 2:21 PM	Report Sent

Review the Problem History to learn what issues Windows has detected and their status.

3 EVENT VIEWER AND RELIABILITY

Get fast relief for system problems with Vista's exclusive combination of ingredients: an improved version of Event Viewer and the brand-new Reliability and Performance Monitor, both of which are found in the Control Panel's Administrative Tools. Event Viewer uses the newly redesigned Microsoft Management Console interface to display application, security, setup, system, and forwarded events. You can customize and filter event views to help you find problems quickly. The Reliability and Performance Monitor provides real-time tracking of CPU, disk drive, memory, and network performance, and its Reliability Monitor tracks application failures, hardware failures, Windows failures, and installation failures to generate a reliability index.



System Stability Chart Last updated: 12/19/2006

Index: 8.51

The Reliability Monitor tracks system stability in terms of software and driver installs/uninstalls, app failures, hardware failures, Windows failures, and other failures on a daily basis.

10 TIPS

A refresher course on Vista's unique features and how to make the most of them

1

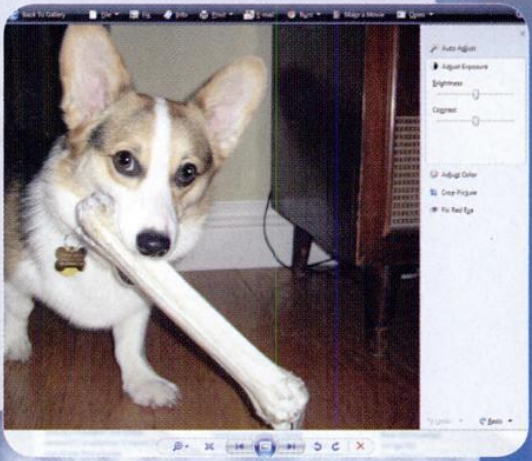
LOOK NO FURTHER THAN 32-BIT Why install the 32-bit version of Vista if you have a 64-bit processor? 64-bit Vista is simply not ready for prime time. Driver, utility, and shell extension (right-click) support are still largely MIA.

2

BEFORE YOU BACK UP The Backup tool can't use drives it can't find. Before you start the backup process, connect your external drive.

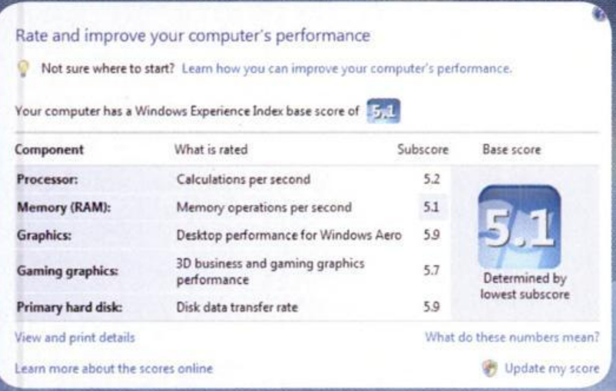
3

FIX THOSE PHOTOS Forget to set the white balance on your digital camera? Are your pictures too light? Too dark? Use the Fix menu in Vista's Photo Gallery to make quick repairs to your pictures.



4

FIND THE WEAK LINKS The Control Panel's Performance Information and Tools tests graphics, CPU, hard disk, and memory performance to help you find weaknesses in your hardware.



Rate and improve your computer's performance

Not sure where to start? Learn how you can improve your computer's performance.

Your computer has a Windows Experience Index base score of 5.1

Component	What is rated	Subscore	Base score
Processor:	Calculations per second	5.2	5.1 Determined by lowest subscore
Memory (RAM):	Memory operations per second	5.1	
Graphics:	Desktop performance for Windows Aero	5.9	
Gaming graphics:	3D business and gaming graphics performance	5.7	
Primary hard disk:	Disk data transfer rate	5.9	

View and print details
What do these numbers mean?
Learn more about the scores online
Update my score

5

FIRST THINGS FIRST As soon as you reinstall your applications and restore your files and settings from Windows XP, you should run a Complete PC Backup (Ultimate, Business, and Enterprise editions only) to enable a "bare-metal" restore of your system.

6

DO IT WITH DVD Want to share your digital photo collection with the technically challenged? Use the new DVD Maker feature to create a DVD of your favorite photos, complete with menus, a soundtrack, and fancy transitions.

7

KNOW THE SCORE Go to System Properties, then Windows Experience Index: If your system's score is below 3.0, one or more of your major subsystems is slowing down your computer. Time to upgrade!

8

UNDESIGNATED DRIVER In a pinch, you can use Windows XP drivers for most types of hardware (except videocards). Download the latest drivers from your vendor's website.

9

EVERYTHING AND THE SYNC Want to synchronize the contents of external drives, PDAs, and media players with Windows Vista? Forget the underwhelming Sync Center and download version 1.4 of SyncToy from **http://tinyurl.com/2meyw.**

10

STANDARD OPERATION Vista supports administrator and standard user levels. Unlike Windows XP, in which a limited account is practically unusable, a standard account in Windows Vista works fine for everyday use. We recommend most user accounts be given standard-level privileges. **MPC**

New tab
U...
Gl...
G...
O...
Bl...
Boing Boing
Latest Chatty
George Orwell
MaxPC Wiki
Maxi
Google
Maximum PC Benchmark
Desktop
trived that the eyes follow you about when you move. B
BROTHER IS WATCHING YOU, the caption beneath it ran.
Inside the flat a fruity voice was reading out a list of fi
ures which had something to do with the production of p

Get More from Google

Google delivers pretty good results when you type your query into the search box and mash Enter, but our power-user tips will make anyone a Google master in just 15 minutes!

TIME 00:15 HOURS:MINUTES

Google has an answer for everything these days. Even its humble search box is stocked with exciting capabilities that can be unleashed by learning a few simple tricks. If you need to do simple math or convert a currency, distance, or weight, the search box should be your first port of call.

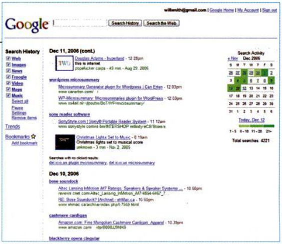
Yet there's so much more to Google than the familiar search screen, and best of all, everything's free. If the website you need is down, Google can help. A vast, searchable library of books is available for your perusal. *Docs and Spreadsheets* is an online office package that enables you to chat with others in real time while working collaboratively on documents—and your work can be saved on Google's servers, so you can access it from anywhere.

Many of the new projects Google is working on are available for anyone to try out in the Labs section of the Google site, **http://labs.google.com/**. Two of the most entertaining are Trends, which enables you to look at search trend data, and Suggest, which comes up with suggestions about what you might want to search for as you type in the search box. A Google account is necessary to play with a lot of these things, but all you need to do to get one is provide an email address and password.

Personalized Search Trends

Google Personalized Search tries to make your search results more relevant by taking into consideration what you've searched for in the past and what results you've clicked on. Go to **http://google.com/psearch** to try it out. You need a Google account to use it, and your search history will be stored inside your account so that Personalized Search can work whenever you're logged in. If you want to remove any sensitive items from your search history, log in to your account and click Search History, which is at the top of the Google homepage.

Also on this page, you can attain a deeper understanding of your Web behavior—and thus your inner self—by clicking Trends to display some revealing statistics. You can also browse through things that you've searched for and clicked in the past and make bookmarks for your favorite sites.


willsmith@gmail.com | Google Home | My Account | Sign out
Google
Search History
Search the Web
Search History
☑ Web
☑ Images
☑ News
☑ Froogle
☑ Video
☑ Maps
☑ Music
Select all
Pause
Settings
Remove items
Trends
Bookmarks
Add bookmark
Search Activity
« Nov Dec 2006
Today, Dec 12
1-5 6-10 11-20 21+

Dec 11, 2006 (cont.)

Douglas Adams - hyperland - 12 28pm
this is internet
popefucker corps - 45 min - Aug 29, 2006

wordpress microsummary

Microsummary Generator plugin for Wordpress | Can Erten - 12 03pm

WP-Microsummary: Microsummaries plugin for WordPress - 12 03pm

sony reader software

SonyStyle.com | Sony® Portable Reader System - 11 12am

Christmas Lights Set to Music - 6 15am
Christmas lights set to musical score
unknown - 3 min - Nov 2, 2005

Searches with no clicked results:
del.icio.us plugin microsummary, del.icio.us microsummary

Dec 10, 2006

bose soundock

Altec Lansing InMotion iM7 Ratings, Speakers & Speaker Systems ... - 10 50pm

RE: Bose Soundock? [Archive] - ehMac.ca - 10 50pm

cashmere cardigan

Amazon.com: Fine Mongolian Cashmere Cardigan, Apparel - 10 35pm

blackberry opera cingular

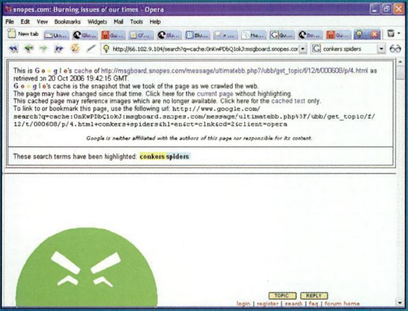
Total searches: 4221

Using Personalized Search, you can tweak your search history to deliver more accurate results.

ACCESS THE GOOGLE CACHE

Google doesn't search the actual Web. Instead, it searches a copy it has made of the Web. The copy is continuously being updated but always remains a few steps behind the actual Web. This fact can be useful in a number of ways. First, if you turn up a long document and can't find the bit that's relevant to you, click the Cached link underneath the result. Your search terms will be highlighted, so you can scroll through and spot them easily. If a link doesn't work, click Cached to see Google's copy.

A particularly crafty means of exploiting Google's cache is to use it to search a site that's down. To do this, type in your search terms followed by the site:www.siteyouwanttosearch.com modifier to limit the results to that site. Now click Cached under the result you want to bring up the page.


snopes.com: Burning issues of our times - Opera
File Edit View Bookmarks Widgets Mail Tools Help
New tab
http://66.102.9.104/search?q=cache:0nKwPDbQ1okJ:msgboard.snopes.cor
conkers spiders
TOPIC
REPLY
login | register | search | faq | forum home

This is Google's cache of http://msgboard.snopes.com/message/ultimatebb.php?/ubb/get_topic/f/12/t/000608/p/4.html as retrieved on 20 Oct 2006 19:42:15 GMT.
Google's cache is the snapshot that we took of the page as we crawled the web.
The page may have changed since that time. Click here for the current page without highlighting.
This cached page may reference images which are no longer available. Click here for the cached text only.
To link to or bookmark this page, use the following url: `http://www.google.com/search?q=cache:OnKwPDbQ1okJ:msgboard.snopes.com/message/ultimatebb.php%3F/ubb/get_topic/f/12/t/000608/p/4.html+conkers+spiders&hl=en&ct=clnk&cd=2&client=opera`

Google is neither affiliated with the authors of this page nor responsible for its content.

These search terms have been highlighted: **conkers spiders**

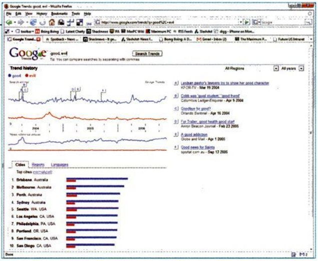
Even when a website is offline, you can view the most recent version of it in Google's cache.

Explore Search Trends

You're no doubt aware that most search engines, including Google, keep a database of all the search queries they receive. While this may pose a threat to users' privacy, the upside is that Google is developing a tool that enables anyone to do their own statistical analysis of the company's search query database. With a little imagination you can turn up some superbly entertaining discoveries. Go to **http://trends.google.com** and type in up to five search terms separated by commas to compare how often those terms have been searched for.

To obtain an idea of the fun that can be had with this tool, enter "good, evil" into the search bar. If you look at the searches from all countries in all years, you'll see that people search for a lot more good things than evil things.
Now use the drop-down boxes on the top right to limit the results by country. By choosing the United Kingdom, we can see that the Brits are close to the global average—for each evil search, they conduct about four or five good searches. However, if we click to see the same results for the French, there are only two good searches for each evil one. In early 2004, evil searches in France outnumbered good ones. We'll leave it up to you to reach your own conclusions on this particularly interesting finding....

The Trends graph often links news stories next to spikes in search queries to try to give an understanding of why certain searches occurred, but unfortunately, some trends remain unexplained. For example, in Sweden, circa August 2005, we find that David Hasselhoff was a hair's breadth from being as popular as Jesus. Globally and at all times, Paris Hilton is nearly as popular as God. These, and a wealth of other fascinating revelations about the human condition, are just a few clicks away.


Google Trends: good, evil - Mozilla Firefox
File Edit View History Bookmarks Tools Help
Google Trends
good, evil
Search Trends
Trend history
All Regions
All years
good
evil
2004
2005
2006
Cities
Regions
Languages
Top cities (normalized)
Done

Tip: You can compare searches by separating with commas

A) Lesbian pastor's lawyers try to show her good character
KFOR-TV - Mar 19 2004
B) Cobb was 'good student,' 'good friend'
Columbus Ledger-Enquirer - Apr 9 2004
C) Goodbye for good?
Orlando Sentinel - Apr 16 2004
D) For Traber, good health good start
Akron Beacon Journal - Feb 23 2005
E) A good addiction
Globe and Mail - Apr 1 2005
F) Good news for Saints
sportal.com.au - Sep 13 2005

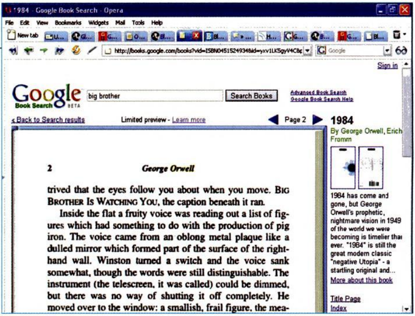
1. **Brisbane**, Australia
2. **Melbourne**, Australia
3. **Perth**, Australia
4. **Sydney**, Australia
5. **Seattle**, WA, USA
6. **Los Angeles**, CA, USA
7. **Philadelphia**, PA, USA
8. **Portland**, OR, USA
9. **San Francisco**, CA, USA
10. **San Diego**, CA, USA

Using Trend Search, you can see what people are searching for on popular topics.

Google Books

Google Books is an amazing resource. The Google Books project seeks to get as much book content online as is allowed by copyright law and make it searchable. Books that are out of copyright are viewable in full, and varying amounts of other books can be viewed.

Go to **http://books.google.com** and click Advanced Search. From this page you can specify whether your search terms refer to the title, author, or main text of a book. It's often possible to view a surprisingly large portion of a book that's still under copyright, but you need to have a Google account to do so. You might get to leaf through just the first few pages of a text by using the Arrow buttons, but you can see much more of a text by using the Search in This Book box. Click the Table of Contents or Index links next to the page to see what's in the book and then do a search for the part you want to read. Many books can be downloaded as a PDF for reading offline.


1984 - Google Book Search - Opera
File
Edit
View
Bookmarks
Widgets
Mail
Tools
Help
New tab
Sign in
Google Book Search BETA
Search Books
Advanced Book Search
Google Book Search Help
‹ Back to Search results
Limited preview - Learn more
Page 2
More about this book
Title Page
Index

http://books.google.com/books?vid=ISBN0451524934&id=yxv1LK5gyV4C&

big brother

1984

By George Orwell, Erich Fromm

1984 has come and gone, but George Orwell's prophetic, nightmare vision in 1949 of the world we were becoming is timelier than ever. "1984" is still the great modern classic "negative Utopia" - a startling original and...

2 *George Orwell*

trived that the eyes follow you about when you move. Big Brother Is Watching You, the caption beneath it ran.

Inside the flat a fruity voice was reading out a list of figures which had something to do with the production of pig iron. The voice came from an oblong metal plaque like a dulled mirror which formed part of the surface of the right-hand wall. Winston turned a switch and the voice sank somewhat, though the words were still distinguishable. The instrument (the telescreen, it was called) could be dimmed, but there was no way of shutting it off completely. He moved over to the window: a smallish, frail figure, the mea-

Don't just search for books, search inside books. All of them.

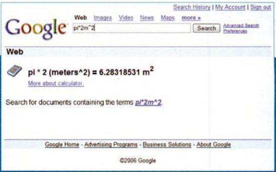
CALCULATOR AND CONVERTER

Here are some examples of conversions that Google will understand—type them into the normal search box:

- **currency of France in Malaysian money**
- **400 yen in U.S. dollars**
- **12 pounds in kilos**

The search box also works as a calculator. Use the normal operators on the numeric keypad for simple math and the following operators for more complicated sums:

- **Parentheses ( ): Anything put inside parentheses will be calculated first.**
- **^ : This symbol raises the preceding number to the power of the number following it. For example, write three squared as 3^2.**
- **log, ln, sin, cos: All understood, use as normal.**
- **% of: The percentage sign by itself provides the modulo (the remainder after division), so be sure to use "% of" if you want a percentage. For example, "20% of 300."**

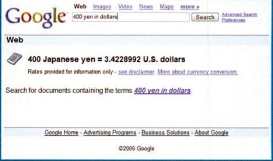

Search History | My Account | Sign out
Google
Web
Images
Video
News
Maps
more »
Search
Advanced Search
Preferences
Web
More about calculator.
Google Home - Advertising Programs - Business Solutions - About Google
©2006 Google

pi*2m^2

pi * 2 (meters^2) = 6.28318531 m^2

Search for documents containing the terms pi*2m^2.

Google won't just help you "write" that book report, it will also help with your math homework.


Search History | My Account | Sign out
Google
Web
Images
Video
News
Maps
more »
Search
Advanced Search
Preferences
Web
see disclaimer.
More about currency conversion.
Google Home - Advertising Programs - Business Solutions - About Google
©2006 Google

400 yen in dollars

400 Japanese yen = 3.4228992 U.S. dollars

Rates provided for information only - see disclaimer. More about currency conversion.

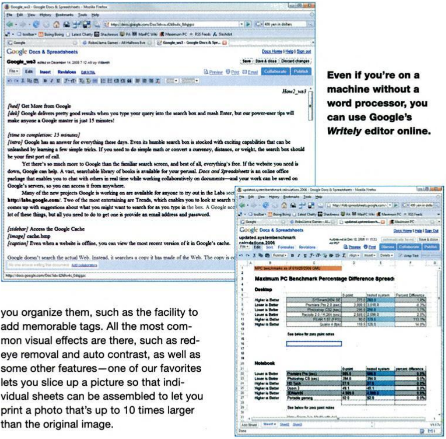
Search for documents containing the terms 400 yen in dollars.

Want to know how much that Japanese eBay auction is going to cost you? Use Google!

Google's Hidden Tools

If you do a lot of work from different PCs, Google's *Docs and Spreadsheets*, an online office application with a word processor and spreadsheet, might be useful. Go to **http://docs.google.com** and sign in to your Google account to use it. You can save all your documents to Google's servers, so if you're working on the move, you only need to log in to access your documents. This also means important files are safe should you lose your flash drive or if your hard drive fails. You can upload work that you've created in a variety of formats, including *Word*, *Excel*, and OpenOffice.org, and download copies to your PC. It's perfect for collaborative work because you can invite others to edit documents with you and even chat with them in real time as you work. Recent edits are saved, so you can roll them back if you make a mistake.

If you're looking for a free program to edit and organize your photos, try *Picasa* (**http://picasa.google.com**). It's a standalone application you install on your PC that works independently of the Internet. It automatically finds all the photos on your PC and has some nifty features to help you organize them, such as the facility to add memorable tags. All the most common visual effects are there, such as red-eye removal and auto contrast, as well as some other features—one of our favorites lets you slice up a picture so that individual sheets can be assembled to let you print a photo that's up to 10 times larger than the original image.



Google_ws3 edited on December 14, 2006 7:12 AM by Willamh

How2_ws3

[hed] Get More from Google

[dek] Google delivers pretty good results when you type your query into the search box and mash Enter, but our power-user tips will make anyone a Google master in just 15 minutes!

[time to completion: 15 minutes]

[intro] Google has an answer for everything these days. Even its humble search box is stocked with exciting capabilities that can be unleashed by learning a few simple tricks. If you need to do simple math or convert a currency, distance, or weight, the search box should be your first port of call.

Yet there's so much more to Google than the familiar search screen, and best of all, everything's free. If the website you need is down, Google can help. A vast, searchable library of books is available for your perusal. *Docs and Spreadsheets* is an online office package that enables you to chat with others in real time while working collaboratively on documents—and your work can be saved on Google's servers, so you can access it from anywhere.

Many of the new projects Google is working on are available for anyone to try out in the Labs sect
http://labs.google.com/. Two of the most entertaining are Trends, which enables you to look at search t
comes up with suggestions about what you might want to search for as you type in the box. A Google acc
lot of these things, but all you need to do to get one is provide an email address and password.

[sidebar] Access the Google Cache

[image] cache.bmp

[caption] Even when a website is offline, you can view the most recent version of it in Google's cache.

Google doesn't search the actual Web. Instead, it searches a copy it has made of the Web. The copy is co

updated.systembenchmark calculations.2006

Maximum PC Benchmark Percentage Difference Spread:

Desktop

		0-point	tested system	Percent Difference
Higher is Better	SYSmark2004 SE	275.0	280.0	1.8%
Lower is Better	Premiere Pro 2.0 (sec)	[illegible]	[illegible]	[illegible]
Lower is Better	Photoshop CS2 (sec)	[illegible]	[illegible]	1.7%
Lower is Better	Recode 2.0 / H.264 (sec)	[illegible]	[illegible]	2.0%
Higher is Better	FEAR 1.07 (FPS)	[illegible]	[illegible]	[illegible]
Higher is Better	Quake 4 (fps)	[illegible]	[illegible]	[illegible]

See below for zero point notes

Notebook

		0-point	tested system	percent difference
Lower is Better	Premiere Pro (sec)	[illegible]	[illegible]	0.0%
Lower is Better	Photoshop CS (sec)	394.0	394.0	0.0%
Higher is Better	HD Tach	[illegible]	[illegible]	0.0%
Higher is Better	Doom 3	49.1	49.1	0.0%
Higher is Better	3DMark05	[illegible]	[illegible]	0.0%
Higher is Better	Portable gaming	92.0	92.0	0.0%

See below for zero point notes

Even if you're on a machine without a word processor, you can use Google's *Writely* editor online.

Like a JV version of *Excel, Google Spreadsheet* will let you perform basic spreadsheet tasks inside your browser.

INSIDE THE SEARCH BOX

It's worth remembering a few basic things about how Google looks at your search terms. If you enter more than one word into the search box, Google will, by default, search for pages that contain all the words; articles, conjunctions, and prepositions are generally ignored; however, a plus sign can be placed in front of such words to force their inclusion in the search.

You can improve the relevancy of your results by using the minus sign to exclude terms that will appear in irrelevant pages. For example, you might put "-dancing" in a search about salsa to get results about food only. Also remember that Google isn't case sensitive, so there's no need to worry about capitalization.

These are the most useful Google modifiers. Use your imagination and then mix and match for the best results. MPC

site:www.siteyouwanttosearch.com	**Restricts search to that particular site.**
define:word	**Brings up a selection of definitions from various sources.**
intitle:word	**Searches for pages with your word in the title.**
"my phrase"	**Searches for a set phrase. If you don't put a phrase inside quotes, Google will look for pages with the words present in any order.**

Gmail
talk
BETA
Welcome to Gmail
Google
A Google approach to email.

With a quick sign-up and a little know-how, you can transform Google's free mail service into the ultimate online messaging app.

TIME 00:20 HOURS:MINUTES

WHAT YOU NEED

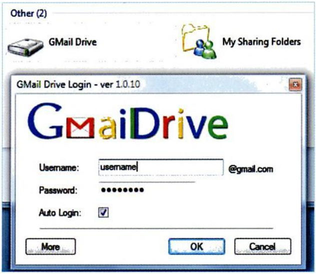
- **FREE GMAIL ACCOUNT**
- **INTERNET CONNECTION**

Hack **Gmail**

Tired of stingy ISPs imposing arbitrary email restrictions on you? Yeah, so are we. 1MB attachment limits, 25MB storage limits, and restricted SMTP servers are sooo 1997. For a 21st-Century mail experience, step up to *Gmail*.

We know what you're thinking: Webmail is webmail. But with 2.7GB of storage, 10MB attachment allowances, and an array of easy hacks that let you customize your mail account in almost any way you like, *Gmail* may be the most powerful e-mail tool the world has ever known. But enough of our yammering. Here's how to turn your *Gmail* account into a messaging dynamo, and more.

BY ROBERT **STROHMEYER**



Username: username @gmail.com
Password: ••••••••
Auto Login: ☑

Gmail Drive Shell Extension **lets you treat your** ***Gmail*** **storage space like an Internet-connected hard drive.**

1 Use Gmail as an Online Storage Vault

Need to keep important files handy? You don't necessarily have to shell out 100 bucks for a high-capacity thumb drive. Instead, use *Gmail's* free 2.7GB of storage as an off-site backup for the files you need access to. The easiest way is to simply attach your file to an email and shoot it to your *Gmail* account. Then you can retrieve it at any time just by logging in and running a quick search of your inbox. Of course, *Gmail's* 10MB attachment limit means you won't be able to archive massive documents. But it's a great way keep your most essential files handy wherever there's an Internet connection.

To take even greater advantage of *Gmail's* free storage space, you'll need to download a helper app. *Firefox* users can download *Gmail Space* from Mozilla's Firefox Add-ons library (**http://addons.mozilla.org/firefox/**), which turns the web browser

into an easy-to-use file explorer. The extension lets you drag and drop files directly into *Gmail's* storage space, without having to worry about the attachment size limit.

Alternatively, you can download *Gmail Drive Shell Extension* (free, **www.viksoe.dk/code/gmail.htm**) for more ubiquitous access throughout your Windows PC. *Gmail Drive Shell Extension* sets up your *Gmail* storage space as a network drive on your PC, which you can access simply by double-clicking the GMail Drive icon in My Computer and then entering your *Gmail* username and password. Once you log in, your *Gmail* storage will act just like any other drive on your PC. It even works with Windows Vista.

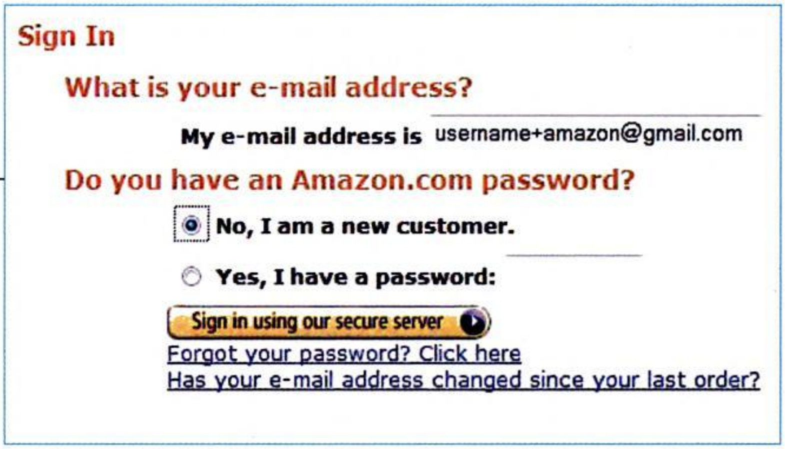
2 Filter Your Mail with Positive Thinking

The lowly plus sign gets little respect in this crazy, mixed-up world. But if you use it the right way with *Gmail*, it could become your new best friend. By adding a plus sign and a filter tag to your own *Gmail* address, you can figure out which of the sites that you've brazenly given your address to are turning around, stabbing you in your tender, fleshy backside, and selling it to every half-witted Pr0p3cia spammer on the net.

This little hack doesn't require a single tweak to your *Gmail* settings. Instead, just use the plus/tag every time you enter your address into an online form. Our favorite method is to use the name of the site you're visiting as the tag, so it's easy to track later on. So if you buy some vintage kicks at Raresneakers.com, enter your email address as username+raresneakers@gmail.com.

Gmail ignores the plus sign and everything that comes after it, so messages sent to that address will still make their way to you. But if that site sells your address to its spamifying associates, you'll know just by peeking at the To address in the header. How you choose to exact revenge is entirely up to you.

You can also use this tip to set up filters for registration codes, listservs, and anything else!



Sign In

What is your e-mail address?

My e-mail address is username+amazon@gmail.com

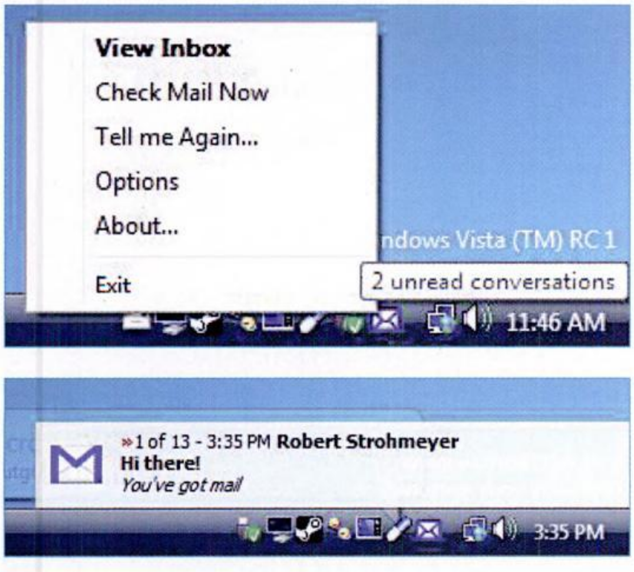
Do you have an Amazon.com password?

● No, I am a new customer.

○ Yes, I have a password:

Sign in using our secure server
Forgot your password? Click here
Has your e-mail address changed since your last order?

You don't need special tools to track down spammers. Add a plus sign and a tag to your address when you fill out web forms to see who's selling your address.



2 unread conversations

»1 of 13 - 3:35 PM Robert Strohmeyer
Hi there!
You've got mail

Gmail Notifier **lets you know when you've got mail, even when your browser is closed.**

3 Take Notice with a Notifier

You don't have to log into *Gmail* every time you want to see if you've got mail. Instead, download a *Gmail* notifier. Although it isn't prominently featured on the Gmail site, Google's own *Gmail Notifier* is a free download from **http://mail.google.com/mail/help/notifier/**. If you'd rather not install a system tray icon, you can always use a *Gmail* plugin for *Firefox*, which you can get from **http://addons.mozilla.org**. *Gmail Checker* is a low-profile plugin that requires barely a second thought to keep track of. But if you want to check multiple *Gmail* accounts from within Firefox, check out Gmail Manager.

Professional PC Diagnostic Tools

SWAPPING COMPONENTS
DOESN'T MAKE MUCH SENSE EITHER.

You don't have time for trial and error or tools and methods that only provide part of the picture. That's why Ultra-X's quick & accurate diagnostics help you detect and isolate problems as well as those annoying intermittent problems. Whether you build new computer systems, provide computer repair services or simply maintain a fleet of PC's running smoothly, take a closer look to see how Ultra-X test tools will make your job a whole lot easier.

Quick. Simple. Accurate.

Random Lockups?
Blue Screens?
Fatal Exception Errors?
Seemingly Dead System?

NO PROBLEM!
Quickly & Accurately
Isolate Issues!

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20th ANNIVERSARY
1987-2007

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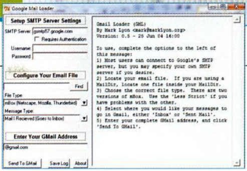
4 Import Your Old Mail into Gmail

If you decide to switch to *Gmail* completely, you'll probably want to bring your old contacts and messages along for the ride. Importing your contacts is easy (just click Import in the upper-right corner of the Contacts screen and select a CSV file exported from your old mail app). Importing your old email takes a little more doing.

One of the easiest ways to get your old mail into *Gmail* is to download Mark Lyon's *Gmail Loader* (aka *GML*), which you can download from **www.marklyon.org/gmail/**. This simple little utility will transfer messages in the mBox format (including *Thunderbird*, *Eudora*, and *Netscape* mailboxes) into *Gmail*. Transferring your mail is as easy as downloading the app, launching it, entering your *Gmail* login info, browsing for your mailbox folder, and clicking Send to Gmail.


Google Mail Loader
Setup SMTP Server Settings
SMTP Server: gsmtp57.google.com
Requires Authentication
Username
Password
Configure Your Email File
Find
File Type
mBox (Netscape, Mozilla, Thunderbird)
Message Type
Mail Recieved (Goes to Inbox)
Enter Your GMail Address
@gmail.com
Send To GMail
Save Log
About

```
Gmail Loader (GML)
By Mark Lyon <mark@marklyon.org>
Version: 0.5 - 25 Jun 04 16:00

To use, complete the options to the left of
this message:
1) Most users can connect to Google's SMTP
server, but you may specify your own SMTP
server if you desire.
2) Locate your email file.  If you are using a
MailDir, locate one file inside your MailDir.
3) Choose the correct file type.  There are two
versions of mBox.  Use the 'Less Strict' if you
have problems with the other.
4) Select where you would like your messages to
go in Gmail, either 'Inbox' or 'Sent Mail'.
5) Enter your complete GMail address, and click
'Send To GMail'.
```

***Gmail Loader* quickly rounds up your old email messages from *Thunderbird* and transfers them into your *Gmail* Inbox.**

To transfer *Outlook* mailboxes, try *Outport* (**http://outport.sourceforge.net**), which can transfer messages from *Outlook* to a host of other mail readers, including *Gmail*. Like *GML*, *Outport* has a fairly simple GUI that's easy to navigate, so you can get the job done quickly and with a minimum of mucking around.

Sadly, *Gmail* will stamp all the imported mail with the date on which you do the import, rather than preserve the original received

If you decide to switch to *Gmail* completely, you'll probably want to bring your old contacts and messages along for the ride. Importing your contacts is easy (just click Import in the upper-right corner of the Contacts screen and select a CSV file exported from your old mail app). Importing your old email takes a little more doing.

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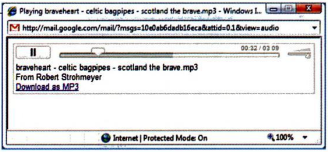
To transfer *Outlook* mailboxes, try *Outport* (**http://outport.sourceforge.net**), which can transfer messages from *Outlook* to a host of other mail readers, including *Gmail*. Like *GML*, *Outport* has a fairly simple GUI that's easy to navigate, so you can get the job done quickly and with a minimum of mucking around.

Sadly, *Gmail* will stamp all the imported mail with the date on which you do the import, rather than preserve the original received dates from each of your imported messages. However, you can still find imported messages by date, because the original received dates are retained within the body of the messages. So simply searching for "Nov 06" will help you find all messages from November of 2006.

5 Turn Gmail into an MP3 Player

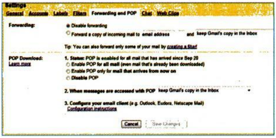
In the interest of convenience, *Gmail* has its own built-in audio player for use with file attachments. You can put it to work as an online MP3 player by using labels and mail filters to sort your files.

First, set up a label called MP3. Next, set up a filter that searches for MP3 content by clicking Create a Filter at the top of the screen. Enter "mp3" in the "Has the words" field and check the box marked "Has attachment." This will search for any messages with music files attached (including any you may have uploaded using the *GMail Drive Shell Extension* mentioned earlier). Now click Next Step and check the box marked "Apply the label" and choose the label MP3. Now any time you want to pump up some jams, you can click the MP3 label on the left side of your screen and pick a tune from the list.


Playing braveheart - celtic bagpipes - scotland the brave.mp3 - Windows I...
http://mail.google.com/mail/?msgs=10e0ab6dadb16eca&attid=0.1&view=audio
00:32 / 03:09
Download as MP3
Internet | Protected Mode: On
100%

braveheart - celtic bagpipes - scotland the brave.mp3
From Robert Strohmeyer

Need a music player in a pinch? *Gmail's* built-in audio player becomes a searchable music library with the addition of a filter and a label.



Forwarding:
● Disable forwarding
○ Forward a copy of incoming mail to email address and keep Gmail's copy in the Inbox

Tip: You can also forward only some of your mail by creating a filter!

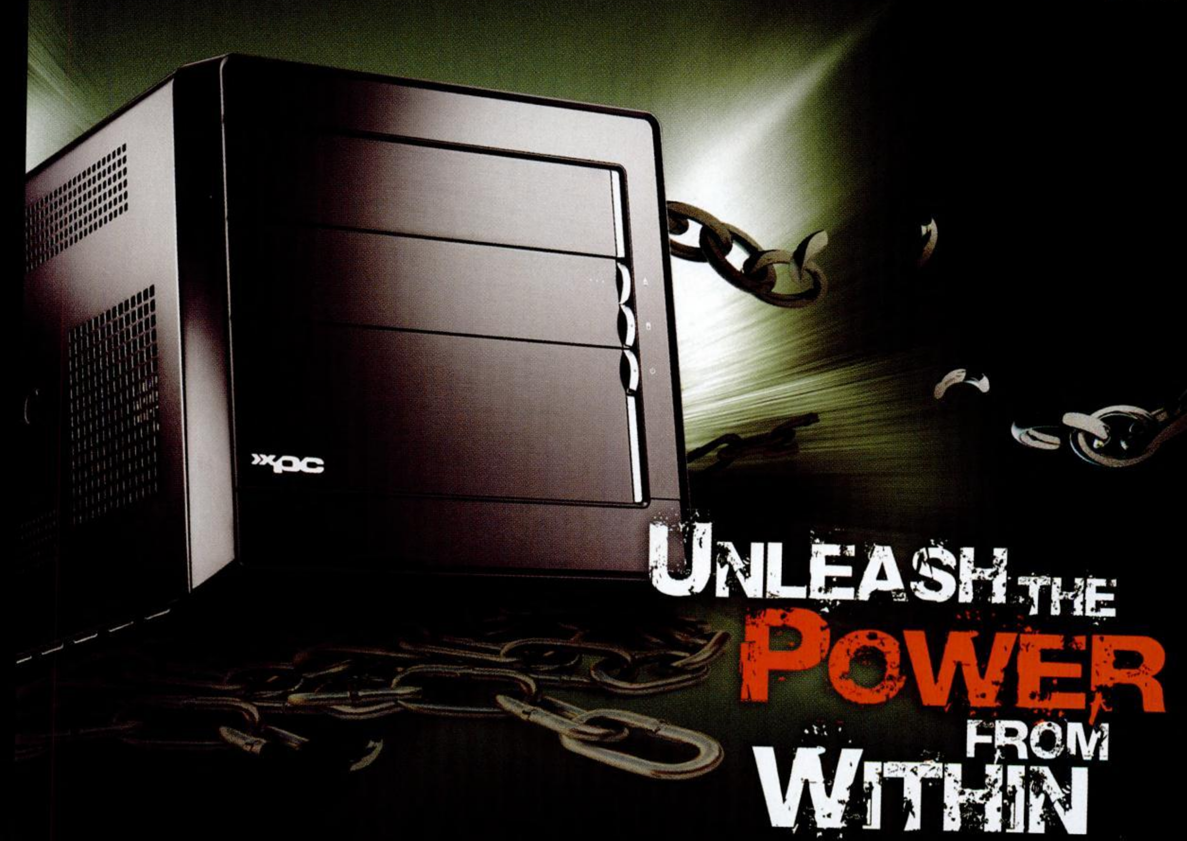
POP Download:
1. Status: POP is enabled for all mail that has arrived since Sep 20
○ Enable POP for all mail (even mail that's already been downloaded)
○ Enable POP only for mail that arrives from now on
○ Disable POP
2. When messages are accessed with POP keep Gmail's copy in the Inbox
3. Configure your email client (e.g. Outlook, Eudora, Netscape Mail)

You don't have to settle for an @gmail.com email address. Use the Account Settings screen to configure *Gmail* to use any address you like.

6 Email Impersonator

Just because you've switched to *Gmail*, that doesn't mean you have to give up your old email address. *Gmail* lets you send messages that appear to come from another address. In the settings pane, click Accounts and then choose "Add another email address," then enter the address you'd like to use. To prevent you from ruining someone else's life by masquerading as them on the Internet, Google will send a test message to verify that the address belongs to you. Then you can choose to make that new address your default identity, so nobody needs to know that you're really sending from *Gmail*. To complete the transformation, set up a forwarder for your other address's account, so that all of your mail reaches your *Gmail* account. MPC

Shuttle®
Computers



Overclock to a Higher Level

Introducing the **Shuttle XPC SD39P2** desktop computer with all the punch over the competition. Powered by Intel® Core™2 Extreme processor and Intel® Core™2 Quad processor extraordinary energy-efficient multi-core technology, featuring PCI Express 16x and supporting up to 8GB of DDR2 memory. Shuttle XPC shatters the myth that "bigger is better".

Shuttle XPC SD39P2

Model	Shuttle XPC SD39P2
Chipset	Intel® 975X + ICH7R
Graphics	PCI Express 16X Slot
Memory	DDR2 533/667/800
Dimensions (L × W × H)	12.79" x 8.26" x 8.66"

*Sigil Games Online recommends NVIDIA graphics processors for Vanguard: Saga of Heroes TM

- 1 888 XPC 1818
- www.shuttle.com
- find XPCs at > www.us.shuttle.com/wheretobuy

XPC
PC Made Modern

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FoxyTunes
mozilla

Optimize **Firefox**

With a little bit of digging and a modest amount of tweaking, you can turn Firefox into a lean, mean personalized browsing machine

TIME **00:56** HOURS:MINUTES

In the march toward a better browsing experience, you've ditched Internet Explorer and joined the legions of Firefox faithful. We have too, but chances are, our browsers look and function much differently from the one on your desktop. Sure, it's possible to simply install Firefox and be done with it, but you'd be missing out on the browser's core appeal, the thing that sets it apart from the competition. We are, of course, talking about Firefox's outstanding degree of customizability.

Nearly every facet of Mozilla's Firefox can be tweaked, making this the tabula rasa of browsers. Release your inner Van Gogh and spice things up with themes or become a modern-day Michelangelo and sculpt a browsing masterpiece with the seemingly endless array of extensions at your disposal. If that still feels like paint by numbers, you can get your hands dirty in Firefox's hidden configuration menu. And when you're finished tinkering, back up your profile to quickly transfer your settings from PC to PC!

BY PAUL **LILLY**

Speed Up Firefox

We're always tweaking our hardware in an attempt to eek out the best performance, and the Fasterfox add-on extends this philosophy to our browser by putting us in control of various networking settings. Via the Custom tabs, for example, you can change the initial paint delay, which tells Firefox how quickly to begin rendering web pages, or enable enhanced prefetching, which forces links to download in the background (albeit at an increased load to the server). To avoid mucking things up, though, stick to the presets. We saw a decrease from 3.77 to 2.77 seconds on our main page's load time just by switching to the Turbo Charged option!

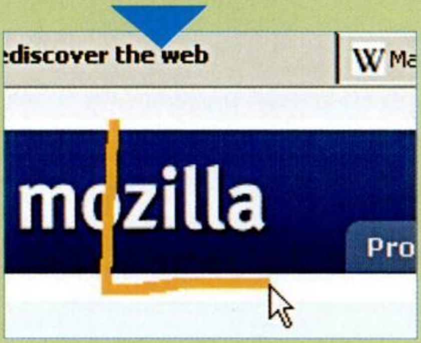
Customize with Extensions

With version 2.0, Firefox storms out of the gate sporting a healthy assortment of tricks, like improved tabbed browsing and anti-phishing protection, but it's the multitude of extensions that really make this browser shine. Extensions add all kinds of functionality, from blocking online ads to serving up a daily dose of Dilbert cartoons, and everything in between.

To browse the 2,000-plus extensions available, select Add-ons from the Tools menu and click Get Extensions, or head over to **http://tinyurl.com/phdun**. Extensions are sorted by category, making it easier to find the functionality you're looking for, or you can browse the most popular offerings to see what others have found useful. Below, we list several of our favorites, but don't install the whole kit and caboodle and bloat your browser, just grab the ones you think you'll use.

MOUSE GESTURES

Make an easy task even easier! Navigate web pages with the click of a button and a simple mouse movement.

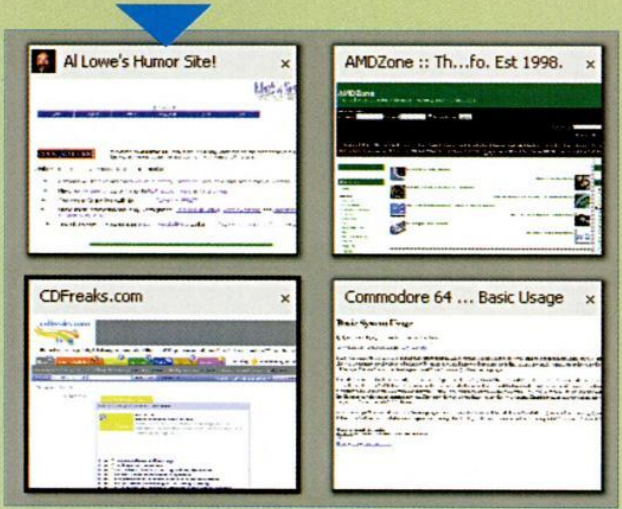


PERFORMANCING

Blog your every thought with this hotkey-accessible editor. You can even drag and drop content from the web.

TAB CATALOG

Is your browser overrun with tabs? Tab Catalog presents a thumbnail of each one with the tap of a button.



GMAIL MANAGER

Keep track of incoming messages for multiple Gmail accounts without logging in and out of each one.

FOTOFOX

Don't neglect your online photo album any longer. Round up your pics, drag and tag 'em, and Fotofox does the rest!

DIGG THIS!

Can you Digg it? We can, and we can do it with a single click.

TINYURL CREATOR

Make mincemeat out of long URLs with TinyURL Creator and automatically copy the new link right to your clipboard.

TAB MIX PLUS

Supercharge your tabbed browsing with a wealth of additional options.

IMAGE ZOOM

Zoom in on any image, just like they do in spy movies!

SPORTSFOX

Feed your sports jones with scores from all four major pro sports, as well as college football and basketball, or follow just your favorite team.

FOXYTUNES

Forget alt-tabbing and instead control just about any media player right in your browser. Perform lyrics searches too.

ADD BOOKMARK HERE 2

An easier way to file bookmarks, just highlight the appropriate folder in your Favorites and click Add Bookmark Here.

DOWNLOADHELPER

No download link? No problem! DownloadHelper can snag videos from sites like YouTube and Metacafe, as well as more *ahem* adult hangouts.

SMILEY XTRA

Most forums offer just a basic assortment of smilies, but with Smiley Xtra, you'll be prepared for any posting situation.

FOXLINGO

Is the latest tech rumor posted in another language? Translate it and get the inside scoop with the aid of FoxLingo.

CACHEVIEWER

Browse Firefox's memory and disk cache or search for a specific item. CacheViewer even displays a thumbnail image of every entry.

MOUSELESS BROWSING

With practice, this virtual cure for suriphobia will have you cruising the web without ever leaving the keyboard!

games radar.

your new favorite game site.

Tons of PC and console game news, reviews, previews, trailers, screenshots, guides and more. All free!

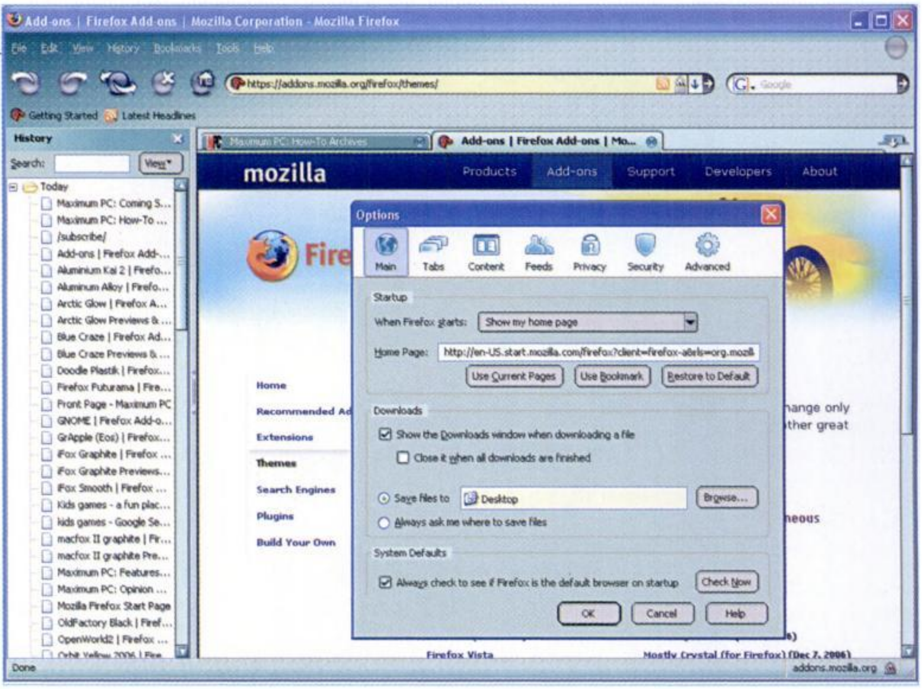
www.gamesradar.com

FROM THE CREATORS OF

PC GAMER XBOX OFFICIAL XBOX MAGAZINE PSM

Add a Theme

You don't need to be proficient at programming to alter Firefox's appearance; you just need an Internet connection. From the Tools menu, select Add-ons, choose Themes, and then click the Get Themes link. It takes some digging, but we found some themes we really like, including Aluminum Alloy and Doodle Plastik. After you have installed one, restart Firefox, and then go back to Add-ons to activate the new theme. Many themes are works in progress, so periodically check for updates.


Add-ons | Firefox Add-ons | Mozilla Corporation - Mozilla Firefox
File Edit View History Bookmarks Tools Help
https://addons.mozilla.org/firefox/themes/
Getting Started
Latest Headlines
History
Search:
View
Today
Maximum PC: How-To Archives
Add-ons | Firefox Add-ons | Mo...
mozilla
Products
Add-ons
Support
Developers
About
Home
Recommended Add-ons
Extensions
Themes
Search Engines
Plugins
Build Your Own
Firefox Vista
Mostly Crystal (for Firefox) (Dec 7, 2006)
Done
addons.mozilla.org
Options
Main
Tabs
Content
Feeds
Privacy
Security
Advanced

Startup

When Firefox starts: Show my home page

Home Page: http://en-US.start.mozilla.com/firefox?client=firefox-a&rls=org.mozill

Use Current Pages | Use Bookmark | Restore to Default

Downloads

☑ Show the Downloads window when downloading a file

☐ Close it when all downloads are finished

● Save files to Desktop | Browse...

○ Always ask me where to save files

System Defaults

☑ Always check to see if Firefox is the default browser on startup | Check Now

OK | Cancel | Help

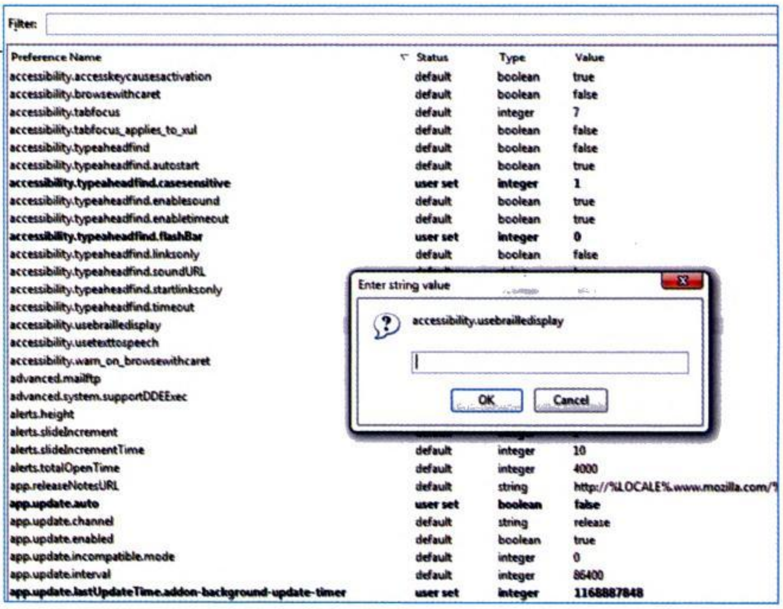
Not all themes look as advertised, so experiment with different ones until you find a suitable candidate. We like Aluminum Alloy.

What's All This About about:config?

Installing an assortment of extensions and themes is all well and good, but this is Maximum PC and that means digging down to the nitty-gritty. A wealth of advanced configuration options are hidden beneath the surface of Firefox, and we know just where to find them. Now would be a good time to back up your default profile or create a new one as a test bed before proceeding.

In Firefox's URL bar, type `about:config` and hit Enter. This brings up a set of preference keys that should look familiar to anyone who's ever poked around a system registry. Don't be overwhelmed by the number of options, we're just going to zero in on a handful of enhancements. Let's start by removing the close button on inactive tabs. Locate and double-click browser.tabs.closeButtons and change the value to 0. Next, being power users, we're going to change the width of our tabs, so we can see more of them before scrolling kicks in. Find browser.tabs.tabMinWidth and change the value to 75 or less. Finally, we want to train our download manager to clean up after itself without us having to nag. Select browser.download.manager.retention and change the value to 0.

We've only scratched the surface here, but don't worry, we won't leave you hanging. For an explanation of what each entry does, head over to **www.tinyurl.com/8swbh** and start experimenting!



Filter:

Preference Name	Status	Type	Value
accessibility.accesskeycausesactivation	default	boolean	true
accessibility.browsewithcaret	default	boolean	false
accessibility.tabfocus	default	integer	7
accessibility.tabfocus_applies_to_xul	default	boolean	false
accessibility.typeaheadfind	default	boolean	false
accessibility.typeaheadfind.autostart	default	boolean	true
accessibility.typeaheadfind.casesensitive	**user set**	**integer**	**1**
accessibility.typeaheadfind.enablesound	default	boolean	true
accessibility.typeaheadfind.enabletimeout	default	boolean	true
accessibility.typeaheadfind.flashBar	**user set**	**integer**	**0**
accessibility.typeaheadfind.linksonly	default	boolean	false
accessibility.typeaheadfind.soundURL			
accessibility.typeaheadfind.startlinksonly			
accessibility.typeaheadfind.timeout			
accessibility.usebrailledisplay			
accessibility.usetexttospeech			
accessibility.warn_on_browsewithcaret			
advanced.mailftp			
advanced.system.supportDDEExec			
alerts.height			
alerts.slideIncrement			
alerts.slideIncrementTime	default	integer	10
alerts.totalOpenTime	default	integer	4000
app.releaseNotesURL	default	string	http://%LOCALE%.www.mozilla.com/
app.update.auto	**user set**	**boolean**	**false**
app.update.channel	default	string	release
app.update.enabled	default	boolean	true
app.update.incompatible.mode	default	integer	0
app.update.interval	default	integer	86400
app.update.lastUpdateTime.addon-background-update-timer	**user set**	**integer**	**1168887848**

Enter string value

accessibility.usebrailledisplay

OK | Cancel

We love that Firefox 2.0 brings tabbed scrolling to the table, but the default width leaves us scrolling prematurely. By decreasing the size of each tab, we can fit more of them into our browser window.

Party with Profiles

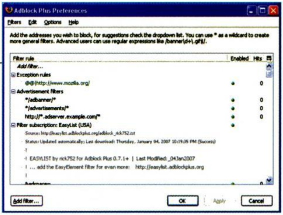
Firefox stores all your customized settings in a profile folder small enough to fit on a USB key, so you can transfer your preferences to another PC. To get started, first enable viewing of hidden files and folders. Open My Computer, highlight Tools from the menu bar, and select Folder Options. Click View and check the "Show hidden files and folders" radio button. Next navigate to C:\Documents and Settings\[USER NAME]\Application Data\Mozilla\Firefox\Profiles and copy the contents of the default folder.

Profiles also come in handy if you share a PC with other family members. Profiles allow each of you to have a personalized browsing experience without cramping each other's style. Or you can create a custom profile for the kids that has extra security features enabled and avoid having your own setup filled with links to Nickelodeon.com and the Ultimate SpongeBob fan site. To create a new profile, first close Firefox. Click the Start menu and select Run, type `firefox.exe -ProfileManager` and hit Enter. In the Profile Manager, click Create Profile and follow the prompts. Be sure to give your new profile a descriptive name, such as Test Box or Kids and uncheck the box that says "Don't ask at startup."

Kiss Online Ads Goodbye!

We don't mind a well-placed ad here and there, but who wants to have their peripheral vision bombarded with a flashing banner or Cialis advertisement when trying to read a website? AdBlock Plus nukes these annoyances before they have a chance to load.

Head over to Firefox's add-ons page and install the AdBlock Plus extension. Restart the browser, then click and subscribe to EasyList in the installation window. This configures AdBlock with filters for many common ads, though you can still manually add specific entries by clicking Tools and selecting AdBlock Plus. Next, supplement AdBlock with the Filterset.G Updater extension. As new ad servers are discovered, Filterset.G updates itself and integrates the new entries into AdBlock, and it contains a whitelist of entries to help eliminate false positives.



Add the addresses you wish to block, for suggestions check the dropdown list. You can use * as a wildcard to create more general filters. Advanced users can use regular expressions like /banner\d+\.gif$/.

Filter rule	Enabled	Hits
Add filter...		
⊟ Exception rules		
@@|http://www.mozilla.org/	●	0
⊟ Advertisement filters		
/adbanner/	●	0
/advertisements/	●	0
http://*.adserver.example.com/*	●	0
⊟ Filter subscription: EasyList (USA)	●	
Source: http://easylist.adblockplus.org/adblock_rick752.txt		
Status: Updated automatically; Last download: Thursday, January 04, 2007 10:19:35 PM (Success)		
!		
! EASYLIST by rick752 for Adblock Plus 0.7.1+ | Last Modified: _04Jan2007		
! ... add the EasyElement filter for even more: http://easylist.adblockplus.org		
!		

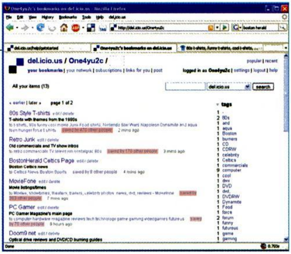
The one-two punch of AdBlock Plus and the Filterset.G Updater knocks out most online ads all on their own, but should the tag team miss an online nuisance, just add a customized filter.

Modernize Your Bookmarks

We're living in a blogger's paradise, where social web browsing has proven to be more than a passing fad. It's for this reason that del.icio.us delights us with its online bookmark-organization scheme and its link-sharing among a network of users.

First head over to **http://del.icio.us/** and register an account. Once you've created a username, you'll be prompted to install the del.icio.us extension. Notice the two buttons added to Firefox right next to the URL bar. When you're ready to bookmark a website, click the Tag button and enter a description, notes about the site, and relevant search tags. For example, popular tags for MaximumPC.com include "magazine," "reviews," "technology," "computer," "hardware," and so on. When you want to view links in only a particular category, click the tag and all other links will be filtered out.

To share your bookmarks with other users or access them from another computer, use your account's URL. This will appear as **http://del.icio.us/[USERNAME]/**. And don't worry about that *Mac|Life* bookmark, just check the "do not share" box when saving a favorite link you wish to keep private. **MPC**


One4yu2c's bookmarks on del.icio.us - Mozilla Firefox
File
Edit
View
History
Bookmarks
Tools
Help
del.icio.us
http://del.icio.us/One4yu2c
boston herald
del.icio.us/help/getstarted
One4yu2c's bookmarks on del.icio.us
80s t-shirts, funny t-shirts, cool t-shirts, ...
del.icio.us / One4yu2c /
popular | recent
your bookmarks | your network | subscriptions | links for you | post
logged in as One4yu2c | settings | logout | help
del.icio.us
search
« earlier | later »
page 1 of 2
tags
Done

All your items (13)

80s Style T-shirts edit / delete
T-shirts with themes from the 1980s
2 mins ago

Retro Junk edit / delete
Old commercials and TV show intros
saved by 170 other people 3 mins ago

BostonHerald Celtics Page edit / delete
Boston Celtics news
to Celtics News Boston Sports saved by 8 other people 4 mins ago

MovieFone edit / delete
Movie listings/times
7 mins ago

PC Gamer edit / delete
PC Gamer Magazine's main page
to computer hardware magazine reviews tech technology game gaming videogames futureus saved by 70 other people 9 hours ago

Doom9 net edit / delete
Optical drive reviews and DVD/CD burning guides

1 .
2 80s
1 and
1 aqua
1 Boston
1 burners
1 CD
1 CDRW
1 celebrity
1 Celtics
1 commercials
9 computer
1 cool
1 dvx
1 DVD
1 dvd,
1 DVDRW
1 Dynamite
1 Food
1 force
2 forum
1 funny
1 futureus
1 game
1 gaming

We've seen tastier-looking interfaces than the one del.icio.us serves up, but accessing your bookmarks from any PC with an Internet connection is a winning recipe, nonetheless!

0:00:05.00
0:00:10.00
0:00:15.00
MVI_3608
MVI_3609
MVI_3608
Coltrane – Alabama
YouTube

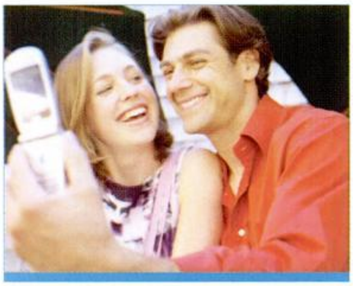
Shoot Video and **Post It on YouTube**

Take videos with your phone, point-and-shoot camera, or camcorder—then share them with the world in six easy steps!

TIME **00:30** HOURS:MINUTES

In the olden days, if you wanted to broadcast your video to the outside world, you needed a million dollars worth of equipment, a team of technicians, and an FCC license. Not anymore. In fact, you've probably got everything you need in your backpack. Have a still camera with video capability, a PC, and an Internet connection? You're in. We'll show you how you can use these tools to get nearly instant international broadcasting capability on YouTube. You'll be surprised to see how quickly you can shoot a video, import it into Windows Movie Maker (which is included with Windows), edit that footage, and then post it on YouTube for all to see.

BY CHARLIE **WHITE**



All the equipment you need to shoot YouTube-quality video.

MATERIALS

- **A CAMERA THAT CAN SHOOT VIDEO**
- **WINDOWS**
- **AN INTERNET CONNECTION**

1 Shoot Video with Your Camera or Cell Phone

Many still cameras on the market today can shoot full-fledged 640x480 video at 30fps, which happens to be roughly the same frame size and rate that's been broadcast far and wide for the past half-century. Turns out that's also more than enough resolution for YouTube. Sure, you can use a DV camcorder, but for shooting and editing on the fly, we're for solid-state, guerrilla, off-the-cuff content creation using a still camera's video function. We film with a Canon SD500, but any still camera or phone that can also shoot video will do the trick. Assume you're out and about with your cell phone in your pocket and a laptop in your backpack. Suddenly something fascinating happens—something everyone needs to see. Hey, you have everything you need to send those shots to the world!

Shooting with a still camera can be more challenging than using a full-size camcorder. The main problem is keeping the camera steady enough to capture watchable video. You may not think you're shaking very much as you're shooting, but even a little bit of rocking and rolling is enough to make your viewers hurl. If you have a tripod handy, use it. If not, hold the camera as still as possible by bracing yourself against something sturdy.

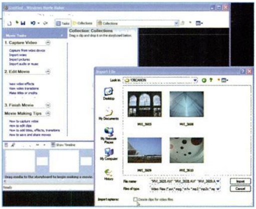
Try not to shoot scenes that have a lot of detail, such as crowds or trees with lots of leaves, because they are harder to compress and end up looking blocky and pixelated. If you're shooting someone talking to the camera, place that person in front of a plain background. Many times, these factors are out of your control, but if you have the liberty of choosing your background, keep it as simple as possible for better-quality compression. Also, choose your shots carefully—you'll have only about eight minutes of shooting time with a 1GB SD card on a typical 640x480 camera, so make every shot count. By making good choices when you're shooting, you'll save yourself a ton of time when you're editing on your PC.

2 Import the Video to Movie Maker

To move video files from a camera to a PC, we prefer plugging the camera's flash memory card into a card reader, but you can also connect your camera to your notebook via USB. Our tiny 12-inch laptop has an SD card slot, and that's what we use to import our quick 'n' dirty videos.

Next, launch Windows Movie Maker and click File. You'll have a choice of either capturing from a video device or importing video. Windows Movie Maker version 6, which is included with Vista, can import more file types than earlier versions of the software (Vista Home Premium and Ultimate also include support for HD resolutions). If your video format isn't supported, your camera manufacturer probably provides a utility to do a quick conversion.

Moving the video onto your PC from a flash card is a snap. Just click Import Video, find your clips on the flash card, control-click the ones you'd like to use, and then select Import. Be sure to uncheck the box at the bottom labeled "Create clips for video files," unless you want Movie Maker to cut your footage into nonsensical bits and pieces for you.



Be sure to uncheck "Create clips for video files" before you import your shot into Movie Maker.

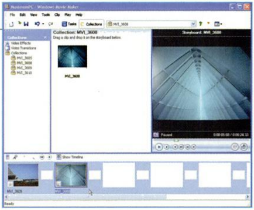
3 Edit the Video

Now that you've imported your shots, it's time to blend them together into a smooth sequence, gussying them up before the big show. Or, for the quickest transition from lens to international debut, you can skip editing altogether and put your clip right onto YouTube in its raw state. To do that, skip to step 5.

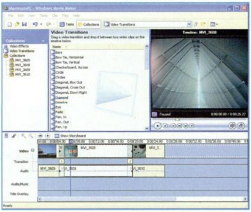
Click the Collections button at the top of the screen to see the clips you just imported. The default Windows Movie Maker mode for editing is Storyboard view, in which you can line up your clips at the bottom of the screen. Drag your first clip into the first square in Storyboard view, and now it's ready for editing. Drag a second clip onto the second large square next to it, and hey, you're editing. You can add a transition between those shots by clicking Video Transitions in the Collections window and then dragging and dropping your chosen transition into the small square between two shots. If you don't put any transitions in those little squares between clips, that's OK, too—you'll have a simple cut between one shot and the next.

Next, go into Timeline view, in which you'll have better control over your clips. Just above the clip you just dragged onto the Storyboard view, click the icon labeled Show Timeline. You'll see the Timeline view, which looks similar to what even the most expensive editing software packages on the planet produce. This view gives you the advantage of edge-dragging, which shows you where you're editing as you drag a clip's edge. Go ahead, try it: Drag the leading or trailing edge of one of your clips and you'll see it playing in the monitor window at the same speed you're dragging. Your cut takes place at the point where you let go, and all of the other clips will fall into place behind it (this is known as rippling). If you want even more accuracy, click the magnifying glass with the plus sign in the middle of it and you can zoom in close enough to do frame-by-frame editing.

You can also use the keyboard to split a clip in two for further tweaking. To do that, drag the current time indicator (the blue line with a small blue square on top of it) to the point where you'd like to make a cut and then either hit Control-L on the keyboard or go to the Clip menu and select Split. Go ahead, play with your clips to find the best combination of cuts. While you may have captured audio when you recorded your clip, you can also drag and drop an additional audio track into your movie—music can give your shots an added dimension. You'll quickly get the hang of lining up a series of shots. Try different combinations until they feel like they're all flowing together smoothly. Whoa, you're an editor!



Drag and drop clips onto the storyboard to get a basic lineup of your shots.



In Timeline view, fine-tune your clips by edge-dragging.

4 Add Transitions, Titles, Credits, and Effects

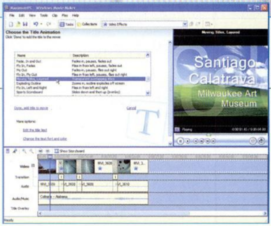
In Timeline view, if you want a smooth transition between one clip and the next, simply drag and drop a transition icon between two clips. You can't make any changes to these transitions, so see if one of them is right for you. And yep, you can use a variety of effects to get from one shot to another, but most of 'em will make your video look like a cheap infomercial. Stick with a fade to keep your segment within the bounds of good taste.

Let's keep it simple and place pro-style fades at the beginning and end of our movie, insert a title, and then add some effects to our shots.

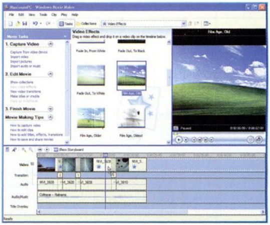
For the fades, click the Tasks button at the top of the screen and then select View Video Effects from the Edit Movie menu on the left side of the screen; you'll then see an icon labeled Fade In, From Black. Drag that icon to the left edge of the first shot you placed on the timeline, and you're done. Do the same at the end of the sequence, except use Fade Out, To Black.

Next, click Make Titles or Credits and follow Movie Maker's simple prompts to Hollywood filmmaking glory—take credit for your work or add an ominous title to your mini-movie.

Want to get fancy? Add an effect to that second clip to make it look like an old movie. Just click View Video Effects, and there lies your choice of three film ages: old, older, and oldest. Drag one onto your clip and boom! The effect has been applied. Don't like it? Remove an effect by right-clicking the clip and then selecting Video Effects; you'll see the Edit or Remove Video Effects dialog box, which lets you add or subtract whatever effects you please. Tweak to taste, and then, congratulations, you're done editing. Now it's time to prep your footage for its journey to the rest of the world!



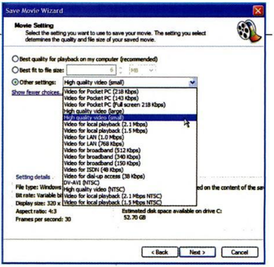
For an arty effect, choose a title animation with a layered look.



Use the Film Age, Old effect to give your movie an old-timey look.

5 Export to a YouTube-Friendly Format and Resolution

You'll want to export your movie from Movie Maker in a pixel size and frame rate YouTube will like. The optimal numbers are 320x240 at 30fps, the size of every YouTube movie after it's been converted to the site's flash video format (flv). Prepare your segment by clicking the File menu and then selecting Save Movie File. For YouTube upload, you'll want the video's quality to be as high as possible without going over the site's 100MB/10-minute limit, since that makes for better compression once it reaches YouTube to be recompressed. Select "save your movie for playback on your computer" and then enter a file name. You're then presented with a Movie Setting dialog box. Click Show More Choices to fine-tune your compression. To save in the 320x240 YouTube format, you'll need to select Other Settings and High Quality (small) from the drop-down menu. If your movie is particularly long, select Best Fit to File Size and fill in "100MB," the maximum file size for a regular YouTube account. Click Next and Movie Maker will compress your mini-movie into the perfect file size for YouTube. MPC



Movie Setting

Select the setting you want to use to save your movie. The setting you select determines the quality and file size of your saved movie.

○ Best quality for playback on my computer (recommended)

○ Best fit to file size: 6 MB

● Other settings: High quality video (small)

- Video for Pocket PC (218 Kbps)
- Video for Pocket PC (143 Kbps)
- Video for Pocket PC (Full screen 218 Kbps)
- High quality video (large)
- High quality video (small)
- Video for local playback (2.1 Mbps)
- Video for local playback (1.5 Mbps)
- Video for LAN (1.0 Mbps)
- Video for LAN (768 Kbps)
- Video for broadband (512 Kbps)
- Video for broadband (340 Kbps)
- Video for broadband (150 Kbps)
- Video for ISDN (48 Kbps)
- Video for dial-up access (38 Kbps)
- DV-AVI (NTSC)
- High quality video (NTSC)
- Video for local playback (2.1 Mbps NTSC)
- Video for local playback (1.5 Mbps NTSC)

File type: Windows

Bit rate: Variable bi

Display size: 320 x

Aspect ratio: 4:3

Frames per second: 30

ed on the content of the sa

Estimated disk space available on drive C:
52.70 GB

Your best choice for YouTube compression in Windows Movie Maker is High Quality (small), which gives you a 320x240-pixel size, YouTube's native format.

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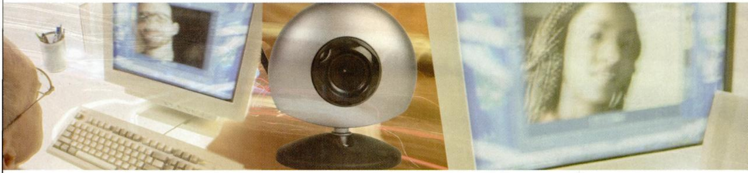


Stream Video from Your Webcam to the Internet

Want an easy way to keep an eye on your baby's crib? Wonder what your pets do when you're at work? With an inexpensive webcam and an old PC, you can create your own streaming video site!

TIME **02:05** HOURS:MINUTES

You know it and I know it: The moment you leave your house, your pets have a party. But the moment you return, they go right back to their mild-mannered pet personas. To catch them in party mode, you need a streaming video camera!

By connecting a typical webcam to an old laptop or PC running the appropriate software, you can set up a streaming video feed that you can access from anywhere on the Internet. It's easy to do and you'll be able to peek into your home from anywhere you have Internet access. We've even peeked in on our pooch from a cellphone.

Even though it seems like a fairly simple project, you'll need to muck around in the configuration screens for your router. Let's get started!

BY WILL **SMITH**

WHAT YOU'LL NEED

- **A USB WEBCAM, SUCH AS MICROSOFT LIFECAM VX-6000**
  $100, www.microsoft.com/hardware
- **TINCAM**
  $20, www.tincam.com
- **AN OLD PC OR LAPTOP**
- **BROADBAND INTERNET CONNECTION (WITH A STATIC IP ADDRESS)**
- **A WEBSITE YOU CAN UPLOAD FILES TO**

1 Prepare Your Streaming Server

The first thing you'll need to do is configure the machine you're going to connect the camera to. You'll need to install the drivers and software for your webcam, install the streaming software, configure the machine to use a static IP address, and disable power management—you don't want the machine going into a power-saving mode.

To disable power management, open the Control Panel and go to the Power Options panel. Then make sure the System Standby option is set to Never. Make sure your webcam is working properly—most cams include an app that shows you the output.

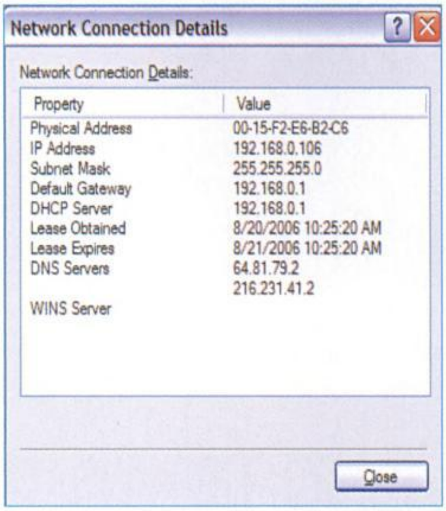
To configure your rig for a static IP address, the first thing you need to do is find the appropriate settings for your config. Go to the Control Panel, then click the Network Connections icon. Right-click your Internet connection—it will usually be called Local Area Connection—and click Status. Go to the Support tab and click Details. You should write down your current IP address, default gateway, and DNS servers; you'll need that info when you configure the static IP.

Now, close that window, go back to the General tab, and click Properties. Double-click Internet Protocol (TCP/IP). In the window that opens, you should click "Use the following IP address." This is where it gets tricky. To figure out your new static IP, you should look at the default gateway setting you wrote down

1 Prepare Your Streaming Server continued

before. Then add one to the final number in the default gateway (it's usually 192.168.0.1, so your new IP would be 192.168.0.2). Your subnet mask will be 255.255.255.0 and you can use the same default gateway and DNS servers you were using before. Press OK and close all the windows you just opened. If everything works and Windows doesn't give you an error, you can move on to the next step. If Windows says your IP is already in use, you'll need to try another IP address.

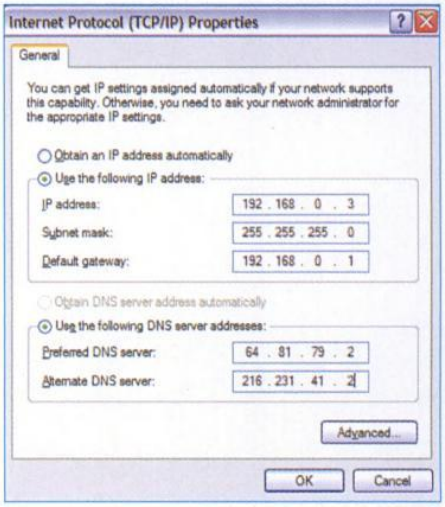
If you're using a software firewall on this machine, you'll also need to configure it to allow *TinCam* (the streaming app) to receive requests on port 8080, or the firewall will stop them. Consult your firewall's documentation for info on enabling port forwarding for a single app or port.


Network Connection Details

Network Connection Details:

Property	Value
Physical Address	00-15-F2-E6-B2-C6
IP Address	192.168.0.106
Subnet Mask	255.255.255.0
Default Gateway	192.168.0.1
DHCP Server	192.168.0.1
Lease Obtained	8/20/2006 10:25:20 AM
Lease Expires	8/21/2006 10:25:20 AM
DNS Servers	64.81.79.2 216.231.41.2
WINS Server	

Before you can move your server machine to a static IP address, you'll need to get some info about your existing connection...


Internet Protocol (TCP/IP) Properties

General

You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.

○ Obtain an IP address automatically
● Use the following IP address:
IP address: 192 . 168 . 0 . 3
Subnet mask: 255 . 255 . 255 . 0
Default gateway: 192 . 168 . 0 . 1

○ Obtain DNS server address automatically
● Use the following DNS server addresses:
Preferred DNS server: 64 . 81 . 79 . 2
Alternate DNS server: 216 . 231 . 41 . 2

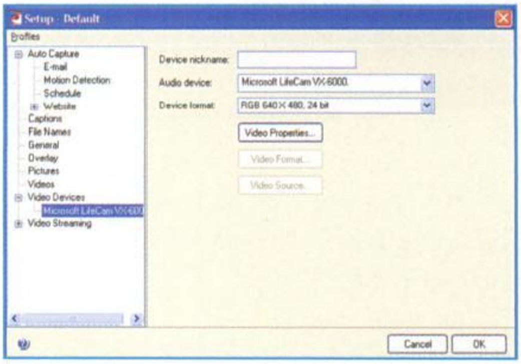
... then you'll manually configure your IP address using the info you just collected.

2 Configure TinCam

Open *TinCam*, and cancel out of the configuration wizard. The wizard helps you configure a webcam that posts a static image on the web, but we're going to be streaming video, so it's not necessary. Click the Setup menu and open the Setup option, then go to Video Devices and make sure the box for your camera is selected. Then click the sub-menu for your camera and configure its output format and the affiliated audio source (if you want to stream audio, that is).

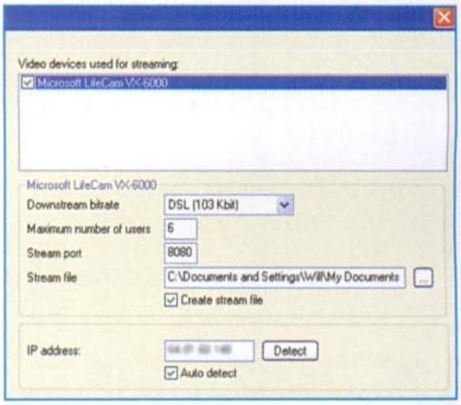
This is also the pane you use to set the streaming resolution. The resolution has a direct impact on the number of clients you can stream video to. If you set it too high, your connection will only be able to support one stream. Too low, and you won't be able to see anything on your video. We recommend starting at 640x480, then testing the video outside your home LAN to see exactly how it performs. Of course, if you're only going to stream the video within your home, bandwidth is no object, and you'll be able to stream at the maximum resolution of your webcam.

Next, you'll need to create the streaming file, which you'll need to upload to your personal website. This .wvx file contains the relevant information about your video stream—including the IP address, bit rate, and format—which lets software players find and connect to your server. Configure the downstream bit rate for your connection type (e.g. DSL, cable, T1) and the maximum number of users you want to support. Then click the Detect button to embed your IP address in the file, and make sure the Create Stream File box is checked. When you close the dialog box, the streaming file will be in the directory you specified earlier.


Setup - Default

Device nickname:
Audio device: Microsoft LifeCam VX-6000
Device format: RGB 640 X 480, 24 bit

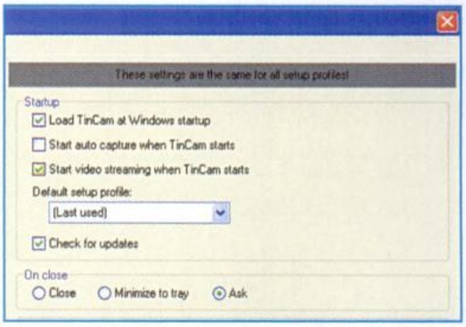
First you'll need to configure the resolution and color depth, as well as the camera you want to use (if you have more than one).


Video devices used for streaming:
☑ Microsoft LifeCam VX-6000

Microsoft LifeCam VX-6000
Downstream bitrate: DSL (103 Kbit)
Maximum number of users: 6
Stream port: 8080
Stream file: C:\Documents and Settings\Will\My Documents
☑ Create stream file

IP address: [redacted]
☑ Auto detect

Then go to the Video Streaming tab and configure the specifics about your connection.


These settings are the same for all setup profiles!

Startup
☑ Load TinCam at Windows startup
☐ Start auto capture when TinCam starts
☑ Start video streaming when TinCam starts
Default setup profile: (Last used)
☑ Check for updates

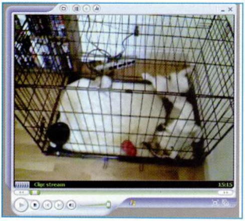
On close
○ Close ○ Minimize to tray ● Ask

Once everything is working well, set *TinCam* to automatically launch with Windows.

3 Design Your Streaming Page

The nice thing about your streaming page is that it can be as fancy or simple as you like. The simplest thing to do is to make a link to the .wvx file (created in Step 2) on your website. This is the code we used on our webpage:

```
<a href="http://www.url.com/webcam.wvx">Webcam</a>
```



Simply make a link to your file, and you can view your streaming feed in *Windows Media Player.*

Of course, you'll need to replace `www.url.com/webcam.wvx` with the path to your streaming file.

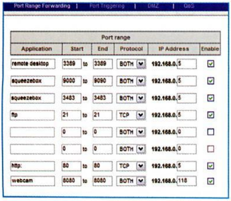
If you want your own streaming page to look a little fancier, use *Notepad* or your favorite HTML editor to create the page, just like you would for any other webpage, and embed this code where you want the video player to show up:

```
<OBJECT ID="MediaPlayer0" WIDTH=640 HEIGHT=525
CLASSID="CLSID:22D6f312-B0F6-11D0-94AB-0080C74C7E95"
STANDBY="Loading Windows Media Player components..."
TYPE="application/x-oleobject">

<PARAM name="autoStart" value="True">
<PARAM name="filename" value="webcam.wvx">

<EMBED TYPE="application/x-mplayer2"
SRC="webcam.wvx"
NAME="MediaPlayer0"
WIDTH=640
HEIGHT=525>
</EMBED>

</OBJECT>
```

4 Configure Your Router

Next, you need to configure your router to forward connections from the net to your streaming server. The details will vary from router to router, but the basic steps are the same. First, you need to access your router's web interface. Open your browser and type the IP address you wrote down earlier for your default gateway—your router is your gateway. Enter your router's password when prompted, and then look for a page labeled Port Forwarding, Gaming, or Servers.

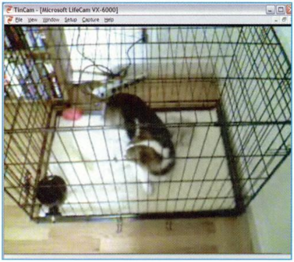
Regardless of your router's brand, you'll need to configure a port to forward, as well as tell the router which type of traffic to pass through, and the destination on your internal network. The port range will be 8080 to 8080, the IP address will be the static IP you assigned in Step 1, and you should forward both TCP and UDP packets. Make sure your new forwarded port is enabled, click the button to apply your settings, and you're done with the router config.



	Port range					
Application	Start		End	Protocol	IP Address	Enable
remote desktop	3389	to	3389	BOTH	192.168.0.5	☑
squeezebox	9000	to	9090	BOTH	192.168.0.5	☑
squeezebox	3483	to	3483	BOTH	192.168.0.5	☑
ftp	21	to	21	TCP	192.168.0.5	☑
	0	to	0	BOTH	192.168.0.0	☐
	0	to	0	BOTH	192.168.0.0	☐
http:	80	to	80	TCP	192.168.0.5	☑
webcam	8080	to	8080	BOTH	192.168.0.118	☑

You must tell your router that it's OK to forward requests from outside your LAN to your streaming media server.

5 Upload and Test Your Stream



If everything works, you'll be able to browse to your page, connect to the video stream, and see... well... whatever you pointed your cam at.

Now you'll need to upload the stream file you created in Step 2, as well as the HTML file you created in Step 3, to your website. It's a good idea to put these in a subfolder of your public_html directory. That way, you can easily add a password to the subfolder, to give your cam minimal protection from prying eyes. When the files are uploaded, go to your streaming server, open *TinCam*, click the Capture menu, and then select Video Streaming. Your stream should be live at this point. Browse to the page you uploaded, and check it out!

Show **Different Wallpaper** Images on **Multiple Displays**

Neither Windows XP or Windows Vista let you easily use different wallpaper images with multiple displays. Here's how you can bend multiple monitors to your will.

TIME **00: 15** HOURS: MINUTES

WHAT YOU NEED

- **IMAGE EDITING PROGRAM**
- **TWO OR MORE DISPLAYS**
- **A HIGH RESOLUTION IMAGE FOR EACH DISPLAY**

Dual-Display Screensaver

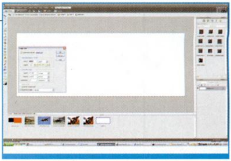
For the same effect with a screensaver, go to www.cs.toronto.edu/~esteger/islideshow/index.html, download iSlideshow, and follow the installation instructions. (You simply need to copy the .scr file to your Windows system directory, which is usually C:\Windows\system32.) You can then select and configure iSlideshow as you would any standard Windows screensaver—just make sure you enable "Multiple Monitor Support" in iSlideshow's settings.

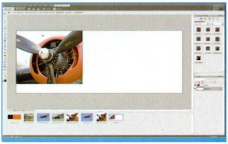
With just a few minutes of monkeying around with an image-editing program, you can get each of your displays in a two-, three-, or more-screen configuration to show different wallpaper images. We used *Photoshop Elements*, but you can get the same results with Paint or any similar program, such as the free trial version of *PaintShop Pro Photo XI*. You just need a program that lets you create a custom canvas size, resize images, and then paste those images onto the canvas.

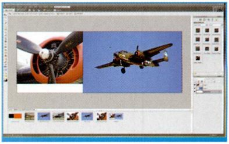
BY STEVE **KLETT**

1 Create Your Canvas

We have a dual-display setup with a 1280 x 1024 screen and a 1920 x 1200 screen. Thus, our wallpaper image will need to be 3200 x 1200 in size. (Width must equal the total horizontal pixel size of both displays, and the height should be set at the largest vertical pixel size of the displays.) So we just create a blank canvas with a resolution of 3200 x 1200 at 72dpi.





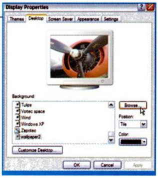


2 Select Your Subjects

Now all we need to do is select the two images we want to use for each display, and make one 1280 x 1024 resolution and one 1920 x 1200 resolution. Next, simply paste each image onto your canvas relative to how you have your displays set up. Our smaller display is on the left, so we pasted the 1280 x 1024 image into the upper-left corner of the canvas. Then we pasted the 1920 x 1200 image into the upper-right corner. Finish by saving the image as a JPG.

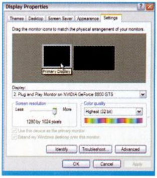
3 Enjoy the Fruits of Your Labors

Note: This process works best if you set the lefthand monitor to be the primary display. If you use the righthand display as your primary monitor, you just have to swap the position of each pasted image in Step 2. To use your new wallpaper, right-click on your desktop and select Properties > Desktop, and then use Browse to select your wallpaper image (or save it to C:\Windows\system32 so that it shows up under the list of available background images). Make sure that Position is set to "Tile," and then hit Apply. You now have a single wallpaper that spans each of your displays, showing a different image on each. Now go forth and use this trick to amaze your friends at parties! MPC



Background: wallpaper2

Position: Tile



Drag the monitor icons to match the physical arrangement of your monitors.

Display: 2. Plug and Play Monitor on NVIDIA GeForce 8800 GTS

Screen resolution: 1280 by 1024 pixels

Color quality: Highest (32 bit)

☑ Use this device as the primary monitor

☑ Extend my Windows desktop onto this monitor.

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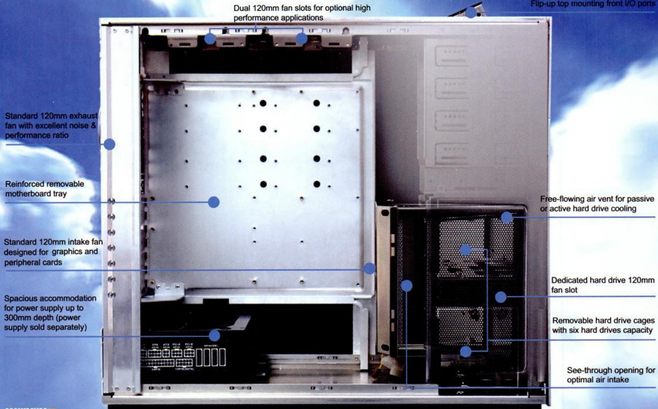
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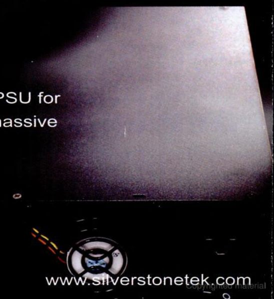

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